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THE

AMERICAN FARMER,

CONTAINING

ORIGINAL ESSAYS AND SELECTIONS

ON

AGRICULTURE, HORTICULTURE,

RURAL AND DOMESTIC ECONOMY,

AND

INTERNAL IMPROVEMENTS:

WITH

ILLUSTRATIVE ENGRAVINGS AND THE PRICES OF COUNTRY PRODUCE.

GIDEON B. SMITH, EDITOR.

> "*O fortunatos nimium sua si bona norint*
> "*Agricolas.*"..VIRG.

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AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

"O fortunatos nimium sua si bona norint
"Agricolas."..Virg.

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AGRICULTURE.

AGRICULTURAL BOARDS.

R. K. M. presents his friendly respects to the Editor of the American Farmer, and refers him to the address of General Washington, to the National Legislature of 7th December, 1796, for the information required, on the subject of a Board of Agriculture—but he would presume, surrounded as the Editor must be, by the lovers and admirers of that great and singular man, that ere this he has been furnished with the materials he desired. To make the foundation of any future remarks in relation to the subject as perfect as possible, G. W. P. Custis, Esq. of Arlington, and Mr. Sparks, in possession of Washington's papers of almost every description, would no doubt with pleasure afford their aid. General Marshall, in his history, and on the occasion of the last speech, thus refers to it "in presenting a full and clear view of the situation of the United States, and in recommending those national measures, in the utility of which he felt a confidence, no personal considerations could induce the omission of those to which open and extensive hostility had been avowed." A navy was recommended, to rise with the growth, and increase with the strength and prosperity of the country. "The speech next proceeded earnestly to recommend the establishment of national works for manufacturing such articles as were necessary for the defence of the country; *and also of an institution which should grow up under the patronage of the public, and be devoted to the improvement of agriculture.* The advantages of a Military Academy, and of a National University, were also urged." If in all reasonable calculation and human probability, such a naval establishment as suggested by Washington would have protected our commerce, and saved us from a foreign war, what results might have been anticipated, from the active operation and co-operation of the other three? Nothing less surely than a country uniformly prospering under the influence of liberal institutions, arts, and sciences, and every internal improvement coincident with our age as a people, and ability as a nation; with an uncomplaining and rapidly improving agriculture, dignified by the talents of the wise and the good. The navy and military academy have, with the weapons of war and science, long since fought themselves into favour with the nation, in spite of modern philosophers. May the time speedily arrive when the others will be permitted to co-operate in rendering our country great and happy. But before we can expect to arrive at such felicitous results, we must subdue in a great degree that double headed monster party spirit—and how is that best to be done? In the spirit of Washington, and that source from whence he derived both his political and moral wisdom, let it be answered—a judicious combination of general education and practical religion—for he said on another occasion, that we could never expect to be a happy nation, except we demeaned ourselves to each other with that "charity, humility, and pacific temper of mind which were the characteristics of the Divine author of our blessed religion." It might have been unpardonable, sir, to have diverged so far from our subject, having any other cause for it than the present—but no apologies need ever be offered for mingling the politics and parental advice of Washington with his agriculture; for like the structure of our happy government which he approved, his plans were clearly to be discriminated as individually useful, but most important, in their union, producing one great concentrated whole. Permit me, in conclusion, to wish you the most successful application of every appropriate principle, and increasing light from all his virtues in the continued progress of the American Farmer.

(From the "Transactions of the American Philosophical Society.")

Observations concerning the Fly Weevil, *that destroys the wheat, with some useful discoveries and conclusions, concerning the propagation and progress of that pernicious insect, and the methods to be used to prevent the destruction of the grain by it. By the Committee of Husbandry.*

It is said the injury of wheat from flies began in North Carolina, about 40 years past, where it has been difficult to preserve it ever since, unless in spring-houses, or other cool places; and that the Indian corn of that country being of a soft and tender quality, is also liable to be injured by the same insects, but may be preserved from them, by keeping the cob covered with the under leaves of the husk.

That these mischievous flies have extended gradually from Carolina into Virginia, Maryland, and the lower counties, on Delaware; to the last of which places they did not arrive till seven years ago, and had not yet penetrated into Pennsylvania, or passed the Delaware. That in the transit they have been principally confined to low level moist lands; and when they have been found in high dry lands, they have been but few in number, and did not remain longer than one season. From whence we may rationally infer, that the high dry lands do not afford them equal conveniencies for subsistence and propagation, that the low level moist lands do, where many things conspire to make all grain raised in them, of a soft spungy quality, and peculiarly adapted to become the food and nests of tender insects; and therefore those are the places in which such insects will abound, and the wheat raised in them, is the only kind which they can pierce and injure. The truth or falsehood of this inference may readily be ascertained, by experiments with different kinds of grain, put into a fly-infected granary. The following pertinent experiment is said to have been often tried. Put three parcels of Indian corn into a place with fly-bitten wheat; let one parcel be of the first kind on the cob, and covered with the husk; a second of the hardy flinty grains; and the third of the soft tender grains, both the latter shelled; the first and second will be injured whilst the third is worm eaten in the same manner as wheat.

The accounts we have of these flies are various; but the most probable is, that they are whitish butterflies or moths, which rest in the day, and are active in the night. They appear to be of the same kind with those that do the like mischief in Europe, which a gentleman of Angumois describes to Mr. Duhamel in the following manner.

"The great loss, says he, we have suffered in our corn, and especially in our wheat, for 17 or 18 years past, has put us on making strict enquiry into the causes of a corruption with which our grain is infected. The common opinion is, that when the corn is in the bloom, that is to say, in the month of June, small white butterflies lay their eggs in the flowers. When the grain is ripe, the eggs are inclosed in it, and as soon as the corn is laid up to be kept, it is found to ferment. This fermentation raises an heat, which hatches the eggs, whence little worms proceed, which are transformed into chrysalides, and these are afterwards metamorphosed into grey butterflies or moths."

This process of the flies in Europe, conforms with the observations of many gentlemen in America, some of whom assert they have seen the perforations in the milky grains in the field, and in the dry grains of wheat, into which the flies had put their eggs. This is the less to be questioned, since it is the well known manner by which plums, cherries, and fruit trees, are injured by other insects.

It is said the most considerable injury done to the wheat by flies in America, is after it is reaped and laid up, which the gentleman in Angumois does not mention to happen in Europe. For a few days after the chrysalides are metamorphosed into flies, these flies copulate, and impregnate more sound grains of wheat with their eggs, which again produce worms, chrysalides, and new parent flies; whereby the number of worms is successively multiplied, and the mischief increased during the warm weather, but ceases in cold, and returns again in the spring. The spring flies are supposed to proceed from worms, hatched at that time in eggs, preserved in the grain through the winter; because they are preceded by worms, are short lived, and never seen till the season is become warm; and because very cold winters have been observed to lessen the number of flies the ensuing summer, which is supposed to be from the eggs being frozen, and destroyed in the grain. The gardeners in Europe preserve their fruit trees, and fruit, by carefully destroying the nests of those insects which injure them, and when the eggs of insects are deposited in any known place, or thing, it certainly would not be impracticable to prevent any mischief arising from them. Therefore in this enquiry it may be useful to know, how and where the wheat fly is preserved; if in the wheat, it may be discovered by the following experiments. Expose to severe frost a quantity of wheat, that had been fly injured in the fall; afterwards put this wheat, and an equal quantity of the same parcel, that had not been frosted, into different vessels, and keep them a due time in the degree of warmth requisite to hatch the eggs. If the facts are as above supposed, living worms will be found in the latter, but not in the former.

The eggs of these flies have sometimes hatched, when the seasons have been extreme hot and moist, in the corn standing in the field. But this rarely happens till after it is stacked or housed, and a fermentation ensues.

The common method of preserving wheat from harvest till it is threshed, especially in places most subject to the flies, is in stacks in the field. These stacks afford a remarkable phænomenon; for the south side of them, which is more immediately exposed to the rays of the sun, become soon heated, and hatch the eggs contained in the grains of wheat from the surface to about eighteen inches in depth, whilst no worms or flies are found deeper, or on the north side.

If the degree of heat which hatches the eggs in the south side of the stack, and the degree in the north side, which preserves them without hatching, were ascertained by a thermometer, it would lead us to a means of preserving the grain, either by keeping it cool, and thereby preventing the hatching of the eggs, or heating it, so as to corrupt them, without injuring the corn; for the difference of warmth in which eggs may be preserved, hatched, or corrupted, is but small; "93 degrees of heat in 21 days gives growth to the chick in an hen's egg, from a little speck into a perfect animal body; but the same egg would be rendered unfit for producing a chick by a greater degree of heat, scarcely enduring 100 degrees without prejudice, and a much less degree than 93, would not suffice for hatching it." The degrees requisite to hatch the eggs of these flies, to prevent their hatching, or to corrupt them, might readily be known, by putting the same kind of fly-injured wheat in different open vessels, and keeping them in different degrees of warmth, making 93, or the warmth of the prolific part of a stock, the medium standard.

Another experiment, of great importance in this enquiry, should be made at the same time, to discover whether the eggs of these flies can be hatched, or the worms exist, without the frequent accession of fresh air: this may be made, by tying a bladder close over a vessel, containing the above kind of wheat, and keeping it in the degree of warmth that will hatch the eggs; and if the eggs in the open vessel hatch, whilst those in the covered one do not (which, philosophy teaches us, will probably be the case) it proves that securing the sheaves of corn from the access of fresh air, by covering them close in stacks or barns, with hay or straw, &c. and keeping the threshed grain in tight casks or granaries, will be an effectual preservative of the wheat from the injury of flies. It likewise proves, what is very useful to be known, that fly-injured wheat in the holds of large vessels, or in deep bulk in granaries, will not receive further damage from insects, but on those surfaces which are exposed to the accession of fresh air.

The following experiment on pease, is an encouragement to attempt the preservation of wheat, by excluding air from it. Take any quantity of English pease intended for seed, divide them into two parts, put one in an open vessel, keep the other in a vessel well corked; that parcel to which the air has had admission, will be worm-eaten in the spring, whilst the other remains sound, and untouched by insects.

It would be a great point gained, to destroy all these flies in granaries and mills, by poison vapour, if it could be easily done. But Mr. Duhamel says, no other vapour, but that from burning sulphur, which is injurious to the grain will do it. This assertion is extraordinary, and the truth of it is to be doubted, since all other insects are readily killed by vapours of various kinds. "If bones of animals, or hartshorn, are laid on an open fire, in a room where the smoke is confined, it will kill all the bugs, fleas and flies in that room: but the least nauseous, and yet the most deadly vapours, are from the suffocation of fire; thus the spirits of charcoal, confined in a close room, kills the strongest animals in a short time;" and therefore it may rationally be expected, that a pot of these coals fired, in a close granary, could not fail of destroying the flies in it in one night: however, there is no determining this matter *a priori*, because of the difference in respiration between animals and insects; the former taking in air by the nostrils, and the latter by a perforation in the addomen. But if the fumes of burning charcoal be inoffensive to the flies, it is probable that filling the room with a thick, pungent, oleaginous smoke, such as arises from burning the stems of tobacco, would soon destroy them, by clogging the air passages in the same manner as oil, which applied to the sides of insects, kill them immediately. Both these experiments may be easily tried, and if they fail, others suggested.

Wheat being now in bloom, and the flies probably very busy in impregnating the tender grains with their eggs, all that can be done this season is, to prevent the hatching of those eggs, by threshing out the corn as soon as possible, and drying it in kilns or the hot sun, and keeping it afterwards in tight vessels, or deep bulk in close granaries: if it should heat in the vessels, it might be readily cooled, and kept so, by ventilating it an hour once a week, with a pair of common house bellows, according to Dr. Hale's direction.

It should not be stirred in bulk, if it can be avoided, that it may quickly encrust upon the top, and exclude the air.

If it is not convenient to thresh it out early, the sheaves should be defended from the accession of air, as before proposed, till late in winter, and afterwards kept in bulk, or tight vessels, to attempt the prevention of spring flies; for which purpose the wheat should be threshed out before spring.

If the stacks of wheat have not been preserved from the injury of the flies, the injured part should be threshed separately, and the wheat used immediately, or destroyed, or the eggs in it prevented from hatching: when flies appear in granaries, they should be killed immediately, to prevent their doing further mischief.

But as all these things require additional labour and expense, it is much to be wished the injury could be totally prevented; and which, it is reasonable to expect, may be attained solely by a proper change of seed-grain annually; that is, to sow the low moist lands with hard, dry, flinty wheat, of high mountainous lands, instead of their own product. For it is well known to naturalists, that the quality of fruit, grain and vegetables, depends on the climate and soil: the apples of a Newtown pippin-tree, growing in New York and Virginia, have scarcely a resemblance in taste. The vine from which Burgundy wine is made in Burgundy, when transplanted into Champaigne, produces Champaigne wine, and the Champaigne vine, transplanted into Burgundy, makes Burgundy wine. Beans and pease from England, planted in America, soon dwindle much from the originals; and the alteration that soils and climates produce on wheat is so well known, that all careful farmers in Europe change their seed-grain often; this is so remarkable in America, it is observed, that the red flinty wheat which grows in the strong mountainous lands, when sowed in low moist places, undergoes a gradual change for four years, and then becomes light coloured, thin skinned, and of a soft texture; and that this wheat sowed in the high lands, takes the same time to recover its natural colour and quality. Therefore if the injury of wheat from flies depends on the soft quality it contracts by its growth in moist low lands, a proper annual change of seed-grain, will alone prove an easy and certain remedy against the present destructive and alarming evil amongst us.

(From the New York Farmer.)

An Economical Method of Raising Early Potatoes.

In the month of February and the first part of March, let the potatoes intended for family use be pared somewhat deeper than usual—save the parings by spreading them on the cellar floor, or any other place where they will not freeze or dry up. About the 20th of March prepare a hot or forcing bed in the ordinary way with fresh stable manure. Spread over the manure an inch or two of sand, or light earth; then lay your potato parings with the skin up close to each other, so that the whole forcing bed may be covered, and cover the parings with light earth two inches deep. Water the bed frequently, and protect it from the frost by covering with mats or straw when necessary, and let it be exposed to the sun and air in moderate weather. When the plants are two or three inches high, transplant them into rows or drills two and a half feet apart, and ten inches from each other in the drill, and you will have potatoes earlier and of a larger size than in any other way. The time of preparing the hot bed and of setting out the plants will vary according to the time when the last frosts are expected, and according to the care taken to protect the plants after they are set out.

The writer of the above has made the experiment three years in succession with uniformly pleasing results. The potatoes were what are called in Pennsylvania, Mercer or Neshanock; any other early kind may answer as well. The same kind of potatoes were planted at the time the parings were placed in the forcing bed, in the ordinary way by cutting and whole, and those from the parings were earlier and larger than those raised in the common way. From experience he is satisfied that it is useless if not injurious to plant more of the old potato than is sufficient to cause the bud to germinate.

The greater part of the potato usually planted may thus be saved and used for the cattle. It is nevertheless thought important to select the largest and most perfectly formed potatoes for seed, because they will afford parings suitable for planting, and will probably improve the stock, which will degenerate if small and deformed ones are used for seed.

Princeton, (N. J.) Feb. 1st, 1831.

HORTICULTURE.

(From the New York Farmer.)

List of Hardy Perennial Plants, calculated for Garden Borders, for Shrubberies, &c, with short descriptions. By M. Floy, Nurseryman.

Actæa Americana, a plant with spikes of white berries, and a variety with red berries; native from Canada to Virginia, growing in shady, rocky woods, and considered by the natives as a valuable medicine—as this country is very rich in her swamps and shady wood productions, containing many beautiful plants which will not grow in common garden soil with common culture, I shall recommend to the notice of such as feel a pride in cultivating them, a border calculated to receive them, and shall call it the American Border, which I will describe at the end of the list, marking all such plants as ought to be planted there by the letters A. B.

Amsonia salicifolia. Amsonia latifolia; willow leaved and broad leaved Amsonia; a perennial with pretty blue flowers; native of the southern states, but perfectly hardy here, and easy of cultivation.

Anemone Thalictroides, flore pleno, a beautiful plant. The single flowering is common all over the country; the double kind was found first in Pennsylvania, and has been found in New York. It is best planted in the American border. [A. B.]

Anemone hortensis. A very splendid collection of this species called Anemones by florists, of all colors, are cultivated in the gardens of Europe. They are a kind of flat bulbous roots; have not heretofore been much cultivated in this country, our summers being too hot, and the seasons too dry for them in the common garden method; but if planted in a prepared border in a shady situation, to the north of a fence, I think they might succeed as well as the Ranunculus. In the American border described at the end, I have but little doubt that they would succeed in great perfection. To those who have never seen a bed of these beautiful flowers, it would be a luxury indeed. The roots may be imported very well: the leaves die soon after flowering, and remain for months in a dormant state; but it is no use to plant them here in a common way, for the trouble and expense of preparing a proper bed for them are not great. The roots need not to be taken up except for the purpose of dividing them, or they may be taken up in the month of July and kept in a dry state, and planted again in October or November. [A. B.]

Primula, (Primula Auricula,) another noted favorite florist flower, of which there are numberless varieties of various colors; some choice kinds sell at very high prices. Although the original plant came from the Alps of Switzerland, yet they require protection in winter, and have not been much cultivated in this country; our summers are too long, and too hot for them. In winter they should be kept in frames; they would perhaps do better in Canada, where the snow would cover them early in fall and remain over them till spring.

Aralia racemosa, spikenard, highly esteemed as a medicine, and a beautiful plant; generally full of small red berries in large bunches, covering the plant all over during the summer and fall months; a native of rocky and shady situations from Canada to Carolina; will grow without trouble in any part of the garden.

Aralia nudicaulis, commonly called *sarsaparilla*, a well known medicinal plant; native, from Canada to Carolina, in shady, rocky woods; will bear cultivation very well.

Asclepias tuberosa, and *Asclepias decumbens*, butterfly weed and pleurisy root; the flowers are orange yellow, and very beautiful; it has been proved to be an infallible cure for the pleurisy, and well known to the physicians; native all over the country, in fields. A plant or two should be introduced into every garden for its use and beauty; it will grow without any trouble in any part of it.

Apocynum cannabinum, Indian Hemp, one of our best medicinal plants, and an effectual cure for the dropsy. I have living testimony near me of a man now more than eighty years old, that was cured many years ago from the last stage of dropsy; and not two years since he effected a cure of a gentleman whom the physicians had given up as a hopeless case, besides a number of others. Every physician should be acquainted with it; I think it important to say a little more on this subject. There are three species of *Apocynum*, natives. But the true kind may be known by its *blackish roots;* its flowers are small, and generally grow in rich, low meadow land; pretty common and very generally called Indian hemp; it increases itself in abundance by its running roots, and is therefore not calculated for a garden, but may be planted in a low waste piece of land for use. The receipt is as follows: one oz. of the roots, when cleansed from the dirt, is to be put in a pipkin, with one quart of spring water, and boiled down to one pint; the residue strained off; add to it one pint of good Holland gin, and it is fit for use. The dose is half a wine glass full at a time, three or four times a day, until the complaint is removed. As every man must live by his business, I must apologize for intruding on the profession. I hope, however, the faculty will take the subject in hand, assuring them that I can produce proof that will be satisfactory of its entire efficacy.

Antirrhinum majus, snap dragon, native of England. There are some pretty varieties. It is a good garden flower, easily cultivated in the flower garden.

Aquilegia vulgaris, Columbine, native of Britain. Several varieties of various colors, all pretty and fitted for the flower garden.

Aquilegia canadensis, American Columbine; the names Canadensis, Virginica, Pennsylvanica, &c., given in Europe to plants when first introduced from this country, do not always mean that the plant grows only in these places. The American Columbine is scarlet and yellow mixed, and grows among rocks from *Canada* to *Carolina*, and may easily be transplanted to the gardens. It is very showy.

Aster, Starwort, Michaelmas daisy, a large genus of American plants, abounding all over the country in almost every situation; enlivening the fields, hedge rows, and swamps, in the fall of the year. Pursh enumerates 78 species, native of North America, some of the kinds are very handsome, and if they were not so common would be thought worthy a place in the gardens and shrubberies as they are in Europe.

Aster sinensis, China Aster; a beautiful annual flower of various colors; raised yearly by seeds.

Cassia chamæcrista, a very pretty annual, with yellow flowers; native, and common, but well worth introducing in the flower garden; raised from seeds.

Cypripedium, ladies' slipper, or more properly moccasin flower, several species; 1. *acule*, or *humile*, dwarf purple moccasin flower: 2, *parviflorum;* petals greenish brown, lower lip yellow with brown spots: 3, *pubescens*, petals greenish yellow with red spots; lower lip yellow: 4, *spectabile*, flowers very large, lower lip white, with red veins; and crimson spots inside These four beautiful and curious flowers should be planted in the American border, they are native from Canada to Carolina, in low shady places, in a black soil; they will not thrive in the common garden. [A. B.]

Coreopsis tinctoria, a very pretty annual, from the Mississippi, now quite generally known, although not many years introduced to our gardens. Of perennial coreopsis 18 or 19 sorts are native, and some of the kinds well worth a place in the flower garden.

Conium maculatum, true hemlock, native of Britain. I introduce this plant to notice on account of its medicinal quality, not as a plant for the flower garden. It is, in fact, a strong narcotic, or poisonous plant; but its virtues have been much extolled in Europe, for the cure of cancers; and in the hands of a judicious physician, (for it should not be trusted to unskilful hands,) has been said to be the only plant that has had any effect in curing this dreadful malady. It is perfectly hardy, and ripens perfect seeds every year.

Canvallaria majalis, lily of the valley, deserves a place in every garden. It thrives best in a shady situation, a low growing plant with racemes of white, sweet scented, flowers in May; is very hardy.

Campanula, speculsum, Venus's looking glass, a pretty looking annual, from the south of Europe.

C. medium, Canterbury bells; a showy flowering plant, introduced to the flower gardens from Germany. It is a biennial plant, and must be renewed by seed.

C. persicifolia; the double white, and double purple, varieties, are very ornamental perennials.

C. trachelium, nettle leaved bellflower; a double white variety of this species also is introduced into the flower garden—a perennial.

C. pyramidalis, large pyramidal, blue bellflower; this is a beautiful biennial plant, and must be renewed by seeds; it requires a little protection from frost the first winter.

Corydalis cucullaria, Breeches flower; or yellow breeches, flowers white, with a yellow mouth, of a singular shape, with a resemblance to the name commonly given it; native, found among rocks, in a rich mould, from Canada to Carolina. [A. B.]

C. formosa; flowers a lively bright red, the shape like the former; native, found on rocks and mountains from Virginia to Carolina. [A. B.]

C. fungosa, a delicate twining plant; native of the woods of Canada to Pennsylvania; pretty to train on poles on the back of a shady border. [A. B.]

Chrysanthemum indicum, called generally, *artemesia*, a splendid collection of those fine showy flowers for the fall display, introduced from China; but quite hardy here. The following varieties are in the gardens about New York; viz—1, common lilac; 2, superb lilac; 3 Spanish brown; 4, early crimson; 5, late quilled lilac; 6, deep purple; 7, expanded light purple; 8, curled lilac; 9, bright yellow; 10, orange; 11, large flame quilled; 12, sulphur yellow; 13, superb white; 14, white quilled; 15, paper white; 16, white with pink centre; 17, silver tassel; 18, superb cluster, yellow; 19, single yellow; 20, straw colored, quilled; 21, small cluster yellow; 22, semi double quilled white; 23, early blush; 24, pink quilled; 25, golden lotus; 26, two colored red; 27, starry purple. With two or three small kinds they make a fine display in flower, and are kept in pots by the curious.

Dianthus caryophyllus, clove pink Carnation. Carnation pinks are a superior tribe of florist flowers, of great beauty and variety; they are hardy to stand out in an open garden, protected during the winter with leaves and straw; but the florists in Europe display them in pots, and keep them in glass frames during the winter; they are arranged by florists into flakes, bizards, and piccatees; some of the fine flakes and bizards sell at high prices; what is called properly, pinks flower low and near a month earlier; there is a great variety of these also as well as many species; some of them well worth cultivating for their fragrance and beauty, and are a great ornament to the flower garden, and easily increased.

Dianthus barbatus, sweet Williams, are quite hardy; and generally well known in most gardens.

Digitalis purpurea, or foxglove; a native of Britain, and, with its long spikes of large bell shaped flowers, is showy and handsome. The white foxglove is like the other, except having white flowers; the plant deserves a place in the flower garden, and is easily raised by seeds; a biennial plant. The leaves of *digitalis* have been extolled in medicine. Dr. Withering published a treatise on its virtues.

D. lutea and *D. ferruginea* may have a place in the garden.

Dionea muscipula, Venus's fly trap. This little, delicate, curious plant, with leaves in the form of a rat trap, which spring up and catch the poor flies that trespass on them. The flowers are pretty large for so small a plant; native of mossy bogs in North Carolina, and has not been found, I believe, in any other part of the country.

Dodecatheon media, American cowslip; one of our little native beauties and easily cultivated; grows wild in Pennsylvania, about a foot high, with a large bunch of beautiful and spotted flowers; there is also a white variety, well worthy of a place in the flower garden.

Dictamnus albus, or Fraxinella; two varieties with white and red flowers, native of Germany; the leaves resemble the leaves of the ash tree; hence the name Fraxinella. Highly worthy of a choice place in the garden.

Gentiana, several species, natives, from New York to Carolina.

G. crinata, or *fimbriata*, a beautiful species from the swamps; the flowers are a bright blue, with the edges handsomely fringed, and may without difficulty be transferred to the flower garden, selecting a shady and rather damp situation. [A. B.]

The other kinds, *Gentiana pneumonanthe, saponaria*, and *ochreleuca*, also deserve a place in the flower garden.

Eupatorium celestinum, a beautiful perennial plant with bright blue flowers in great profusion; a native of the southern states, but quite hardy, and very ornamental; flowering all the summer.

Eupatorium perfoliatum, thoroughwort, and *boneset*, a well known and very common plant, growing in all our meadows. Its medicinal virtues in intermittent fevers are its principal recommendation.

Gerardia, a beautiful tribe of native plants; the flowers are somewhat in appearance to the foxglove; *Gerardia flava, Gerardia quercifolia*, and *Gerardia pedecularia*, are very showy and worthy a good place in the garden; found pretty common at particular places, in woods, on rocky ground and may easily be cultivated.

Gerardia purpuria, with purple flowers, grows in swampy places, should be planted in the American border. [A. B.]

Glycine tuberosa, or *Apios tuberosa*, a beautiful bulbous plant; the flowers are dark brown, and sweet scented; it is found in the swamps from Pennsylvania to North Carolina; but might be planted in the shady part of the garden. [A. B.]

Helianthus multiflorus, flore pleno; native, a very showy and double perennial sunflower; will grow any where without trouble.

Hibiscus palustris, common in our swamps, and has very showy large flowers; well calculated for borders in front of the shrubbery, or outside plantations; two varieties.

H. grandiflorus, very large; flowers flesh colored, with a red bottom; the stamina yellow.

H. speciosus; flowers deep scarlet, and very beautiful; this and the former species are natives of Carolina, and will not stand our winters without protection.

H. manihot; flowers sulphur yellow, with a purple bottom; a most splendid plant when in flower, but the plants require protection during the winter here; a native of the banks of the Mississippi.

Hemerocallis flava, yellow sweet scented day lily; very easily cultivated; native of Siberia. *Hamerocallis fulva,* tawny day lily; native of the Levant, pretty common in gardens.

H. japonica, a beautiful large white flowering plant from Japan, with large leaves, but is quite hardy here, and another instance of plants from Japan being accommodated to our gardens.

H. cœrulea, with large blue flowers; from the same place and quite hardy.

Hollyhock, Althea ficifolia; a collection of double Hollyhocks, of which forty or fifty varieties of all colors and shades, from the purest white to jet black; makes a beautiful show; with care they may be perpetuated true to their sort, by seeds selected with care; they grow tall; they ought to be planted in front of shrubberies, or outside planting, or, in borders, around the centre walk, making a noble appearance. *Althea rosea,* or China Hollyhocks, are of lower stature, and generally called annual; they are rather biennial.

Iris, flower de luce; a very singular and handsome tribe of plants, of which there are about fifty species, eight of them native; all worthy of attention, and some very beautiful.

Kuhnia eupatorioides; native of our swamps, a twining perennial plant producing thousands of eupatorium like flowers; it well deserves a place in our gardens.

Liatris, a very showy, beautiful tribe; a kind of bulbous rooted plant; seventeen species are noted as natives of our swamps, scattered through the United States and Canadas; I shall note a few for the A. B. collection.

L. squarrosa and *L. scariosa,* a native of mountain meadows, from Virginia to Carolina. The roots of these two species are used as a cure for the bite of a rattle snake; the bulbs bruised and applied to the wound, while at the same time they make a decoction of it in milk, which is taken inwardly; (See *Prenanthus serpentaria;*) the whole tribe is worthy of attention and cultivation. [A. B.]

Lupinus perennis, an elegant perennial plant, native of dry hills, scattered over certain parts of the country, from Canada to Florida; well worth cultivation. Three or four sorts have been lately introduced from the North West Coast, by Douglas. I shall notice particularly one kind that flowered with me last year, requiring no sort of protection during the winter.

L. pollyphyllus. The spike of elegant blueish purple flower, from two to three feet high; continued in flower a month. I saved a few seed, and am in hopes to make it generally known; the other kind Lupinus bicolar flowered also; the flowers white and yellow, and very sweet scented.

Lupinus, or the annual kinds of Lupins, from the south of Europe, has long been known to the gardens in Europe, seeds of which may be obtained from the principal seed stores. There are five or six sorts.

Lychnis chalcedonica, flore pleno, or double scarlet lychnis; a very showy, beautiful scarlet perennial, from Russia, long known and cultivated in every good flower garden; a little protection or covering with leaves during winter is proper; indeed all the flower beds are the better for it, taking away the covering as soon as winter disappears.

L. flos cuculi, or Ragged Robin, a native of Britain; the single common kind is worth little attention; but of late a beautiful double kind has been diffused through our gardens, and makes a fine show.

Linnæa borealis, named after the celebrated *Linnæus.* The plant is found abundantly in our swampy woods, from Canada and on the swamps of the mountains from New York to Pennsylvania; a very curious circumstance of its growing wild in this country, as well as through most of the northern regions of Europe. Is it because all the world is the country of this great naturalist, that nature shows her little favorite flower all over it? The flowers are white, tinged with red, and may generally be found in the moss; a trailing plant, and will be treated with respect, I hope, by every gardener.

Lobelia cardinalis; scarlet cardinal flower; a beautiful plant with its bright scarlet flower; the ornament of our swamps and brooks; is well worthy a place in the flower garden, and may easily be cultivated; native from Canada to Carolina. [A. B.]

L. syphilitica, blue cardinal flower; common in our low grounds, and on the banks of rivers, near springs; from New York to Carolina; is well worthy of cultivation, not only on account of its beauty, (although by no means as handsome as the former,) but for its medicinal qualities particularly said to be efficacious in *siphilis,* and other disorders. Pursh says it was introduced into Europe nearly two hundred years ago, for its great medicinal qualities.

L. fulgens, a very beautiful large scarlet flowering perennial plant; introduced from the Mississippi; requires a little protection here—it is a beautiful plant.

Monarda didyma, Oswego Tea; a native of the high mountains of North Carolina, according to Michaux. It is a showy scarlet flower, and by the name of Robin Runaway, generally cultivated in the gardens.

M. kalmiana, native, in boggy woods, in black rich soil, near Onandaga, and Oswego, New York; it is very like the former in color, and quite as easily cultivated.

M. fistulosa, flowers purplish; and several other sorts, all easily cultivated if once introduced.

Mimulus, or monkey flower; a very curious species of this genus introduced from the North West Coast latterly; is well deserving a place in the gardens; it is called *Mimulus muschatus,* and has a very strong smell of musk; and may with propriety be called the musk plant; it is quite hardy.

Mimulus rivularis, from the same place, has a large yellow flower, with a large scarlet spot, which makes it have a pretty appearance when in flower.

Œnothera, or Tree Primrose, of which there are several very beautiful species, natives of this country.

Œ. grandiflora, a very handsome plant with large yellow flowers.

Œ. linearis, fraserii, and several other sorts claim a place in the garden for their beauty.

Pæonia. The Peony has long claimed a choice place in the flower garden; with its very large double crimson flowers, remaining in the garden without trouble. Of late years some new and beautiful kinds have been obtained from China and Siberia which are quite hardy.

P. officinalis fl. pleno albo, double white with a little tinge of blush; a variety of the European kind mentioned before.

P. albiflora, candida, white Chinese Peony, pure white.

P. albiflora whitleji, double white Chinese Peony, beautiful.

P. albiflora humei, large double rose do. do. very large.

P. albiflora flagrans, double sweet scented do. do. All these kinds are indispensable in all good gardens; they make the greatest ornament and are all perfectly hardy.

Papaver somniferum, the large garden poppy, from which opium and laudanum are made. This is an annual plant and easily cultivated from seeds, many beautiful varieties of colors, with double flowers, are produced, and are well worth cultivating for their beauty, as well as for an article of commerce.

Papaver bracteatum, a perennial plant; the flowers are very large, of a beautiful scarlet color; when in flower has a very imposing appearance and is perfectly hardy.

Petunia nyctaginiflora, a plant newly introduced, to this country; the flowers are large, white, and sweet scented, much like the *mirabiles,* or marvel of Peru; it is very hardy, and easy of cultivation, flowering most all the summer; an acquisition to our gardens.

(To be continued.)

TRIM BEFORE YOU PLANT.

NAMESAKE: *George Town, D. C., 3d month,* 1831.

The great benefit of thy extensive Journal is, to communicate results; and the more extensive its circulation, of course the more beneficial its effects will be: and especially, *if every man will do his duty;* (as it has been said JOHN BULL, *or some of his subjects,* had required of his men.) Then each agriculturist may be put in possession of the best mode hitherto reduced to practice, in most, or all the various branches of pursuit in husbandry, and at the small expense of the American Farmer. And again, each one may examine for himself, and see, whether the crops which he cultivates, are the best which can be adapted to his soil and condition.

But to the subject: trim before you plant. On the 6th day of 4th mo. 1830, a near neighbour and myself, had each a nice young apricot tree sent us; he took choice; they were then in bloom; we each planted our trees in puddle—that is, we took rich earth, about such as would be considered a good garden soil, *and made it so limber with water that it would just run,* and when we set our trees in the holes prepared for them, poured the puddle on the roots until they were covered, then filled the holes up nearly even full, with the earth that had been taken out; the trees were planted about nine inches deep. The only difference in our mode of planting was this: he planted his just as it came to hand; I trimmed off all that portion of the end of each root, that appeared to have become dry by exposure to the atmosphere; (the trees were about one inch diameter, brought from the same nursery, and carried about three miles;) now see the result. My tree did not appear to have suffered the very least by the removal. My neighbour's tree was sick, and seemed as though it would die until late in the season, then it revived and became green, and looked healthy.

I considered this a very plain case: and thought it one that might be useful to some of the readers of the American Farmer—*it may be to all.* Every one will see, that the ends of the roots, no matter how small, are in fact the mouths that take in the nourishment of the tree; and, that if these, by exposure to the atmosphere, become dry, they of course lose their tone, they cannot operate, consequently the tree must suffer for the want of food,—and the only remedy is, that the tree must throw out new roots, which, according to the course of nature, will each have its mouth, and thus the tree is enabled again to gather food. But if the roots are all trimmed off to the fresh wood, then each one will perform its proper function, and the tree sustain very little or no injury by a removal—and it may be at almost any season of the year. Very respectfully thine,

GIDEON DAVIS.

ALMOND TREE.

In a descriptive list of the plants of Chili, in Professor Silliman's Journal for January last, the opinion is expressed that the extensive cultivation of the *Almond* tree would be, in a commercial point of view, highly advantageous to the country, on account of its qualities and the different uses to which the almond may be applied. Its wood serves for the finest kind of joiners' work; the oil of almonds is highly useful in medicine. The variety with a soft shell is to be preferred.

(From the Genesee Farmer.)

SILK.

Mr. Isaac Foster, of Ogden, called upon me the other day, for some eggs of the silkworm, and related to me several facts on the subject of raising silk, the relation of which may interest some of your readers, and call up the slumbering attention of the farmers, to a subject of much importance to them and the country at large. Mr. Foster came from a part of Connecticut, where silk is made, 10 or 12 years ago, and purchased a farm in Ogden; his first object was to plant out a nursery of white mulberry trees, from which he has an orchard now of 150 trees. He states that a full grown tree will furnish food sufficient to make one pound of raw silk in a season; and made reference to a large mulberry tree standing in the street near Mr. Avery's brick tavern, at the *landing*, as capable of doing it; this tree is from 15 to 18 inches diameter, near the ground, and from the best information I can obtain, is about 20 years old, and has a very spreading top, not unlike a large apple tree.

During the last war, Mr. F. went to a distant town in Connecticut, where there were many mulberry trees, but where the inhabitants were not accustomed to make silk. He obtained permission to gather the leaves, and with the aid of two females of his family, he made, in six weeks, silk enough to yield him about $300, after adding to it the labour of the females, five or six weeks longer, in reeling, and making it into sewing silk, silk twist, &c. I should add, that during the last week of feeding the worms, he had the assistance of a few children and others; for in the last stages of their existence, they eat voraciously, and must be kept supplied with food, or all previous labor is lost. He made his crop of silk before the hay and harvest of his own farm came on.

Mr. F. states that it is customary for young women to go out to those families who cannot make their own silk, and make it on shares; that in this manner, one will, in the course of ten or twelve weeks, make about 15 pounds of silk, reel it from the balls or cocoons, and return the one half of the raw silk, thus made, to the owner of the trees; thus making, or earning as much for herself, frequently in a few weeks, as a young man will in a year, at common labor.

It is not often, however, that mulberry orchards can be had on shares, as every family prefers making and manufacturing their own silk, when they have the power, as it is much more profitable, especially where there is a family of children, to gather leaves, which is the chief labor. The reeling can always be done during leisure.

A farmer could scarcely leave a better legacy to his children, in the shape of property, than to set out for each of them, 50 white mulberry trees, on such parts of his farm as not to interfere with his ordinary farming operations, he would have growing a better mine of wealth than the gold mines of the south.

I have a nursery of about 3000 trees, of two summers growth from the seed, a portion of which will be for sale, in the spring, at ten or twelve dollars the 100 trees.

I have one tree, a variety of the white mulberry, that I prize very highly, the *morus multicaulis*, which produces a leaf about twelve inches long by ten wide, the genuine Chinese mulberry tree. It is, yet extremely rare in the United States, though I have seen a few advertised for sale, in the nurseries near New York. About nine years ago, two trees were brought from the Phillippine Islands, into France, from which they have been extensively propagated, and from thence have found their way to this country.

They grow more readily from cuttings, than the common white mulberry, and are perfectly hardy.

If the foregoing remarks, hastily made, are worthy of notice, you are at liberty to insert them in the Farmer. I am, respectfully, yours, O. Wilder.

P. S. I might remark that the price of silk, during the war, was much higher in price than it is now; but raw silk, that is, in the state in which it is reeled from the cocoons, is now worth, in France, from 5 to $5.50 per pound, and is now worth the same in this country; but its value is greatly enhanced by the additional labour of converting it into sewing silk, or twist, which every house-wife could soon do. I have been speaking of the domestic manufacture of the article, which is only preparatory to its more extended culture and use, which would be a necessary consequence.

Notice on the Mode of Cultivating the Mulberry in Pasture Grounds.

By M. Bonafous, of Turin. Read before the Royal Society of Agriculture, of Lyons, 1828. *Translated.*

If the great number of Mulberry trees to be seen in the above department, testify the useful influence of this Institution on all agriculturs, it is hoped they will consider and try another mode of raising and propagating still more that plant.

This mode, which I submit to the Society, is practised in China, and I understand also in one of the states of North America, in which the culture of silk is an object of considerable industry: there, in the spring, they sow their seed in a well prepared ground, in drills, or by broad cast; and next year they mow the young plant, and obtain successively as much foliage as is necessary to feed their silk worms, until the plant becomes stunted stock, and then they sow on another piece of ground for the ensuing year. (These Mulberry stocks and roots could, by proper process, be made an excellent material for manufacturing an excellent paper, Chinese-like, much esteemed by copperplate engravers.) This crop can be daily made, except after very dry weather, in different portions of the ground, and each plant will bear to be topped three times at least before the mounting of the silk worms.

This method, however, should be subjected to such modification as the variableness or vicissitude of the climate must require. Perhaps it would be better to sow in the latter part of the summer than in the spring, and also to gather and dry carefully the foliage before using it—also to sow in drills, which might be replenished, instead of broad cast.—The following would be the advantages of this method:

1st. To gather leaves without labor or expense.

2d. To employ a much smaller piece of ground than what it takes for any quantity of silkworm.

3d. To be able in the course of one year, to raise the mulberry foliage, the silkworm, and to reel the silk.

4th. To protect the young plants against rain or moisture by the means of a transportable awning.

5th. To enable tenants as well as proprietors of ground to secure every year a crop of silk.

6th. To proportionate at each season the quantity of silk to the demand of the market or of the manufactures.

It is thought highly important thus to invite the attention of silk culturists in ascertaining what ground would be more productive, that which is apportioned for grains or any kind of the cereals, or for grass; and especially whether the probable greater moisture of mulberry foliage thus raised, than that from our trees, can alter the quality, the fineness or the beauty of silk so as to undervalue its price.

Persuaded of the general utility of these subjects of inquiry, I beg leave to deposit in the hands of your treasurer, and at the disposal of the Royal Academy, the sum of —— to be distributed in shares or prizes of encouragement to any culturist who will communicate the result of his experience on these different points, provided they be judged worthy of your approbation and encouragement.

N. B. Any quantity of fresh white mulberry seed, can be had, at No. 71 Liberty street, and 179 Broadway, New York. Translated by F. Pascalis.

RURAL ECONOMY.

(From the Genesee Farmer.)

CARROTS.

It appears not to be generally understood in this part of the country, that carrots are among the best and most nutritious food for cattle and horses. One bushel of carrots will yield more nourishment than two bushels of oats, or potatoes, and it is a remarkable fact, that horses will frequently leave oats to feed on carrots, after they have acquired a relish for them. Generally, cattle as well as horses are very fond of them, and thrive astonishingly well, when fed upon them. They not only give them a fine flesh, but a rich brilliant gloss.

If our farmers would turn their attention to the raising of this vegetable extensively, they would find an immense saving in *grain*, as well as a visible change in the thrift of their animals. As a matter of economy and profit, it is of vast importance. The quantity of carrots which may be raised from *one* acre of good land, is almost incredible. Where the land is rich and mellow, an acre will yield from 1,000 to 2,000 bushels. The process is simple, and the labor comparatively light.

Select a rich piece of ground, tolerably dry, and as free from weeds as possible; plough it deep, make it mellow, and harrow it smooth. Then sow your ground with the usual quantity of flaxseed, and harrow it in; after this, sow about a quart of carrot seed to the acre and bush it lightly. Both seeds will come up together, but the flax springing up with considerable rapidity, will so shade the carrots that they will not gain much size till the flax is pulled. The shade of the flax will also prevent the weeds from growing, so as to interfere with the carrots. After the flax is pulled, which will be in July, the carrots will begin to enlarge rapidly, especially if the weeds have been kept in check by the shade; for the pulling of the flax will so loosen the earth around them, and so expose them to the rays of the sun, as to give them new vigor and strength. At that time also, the weeds will not grow rapidly, if at all.

Thus may be raised two valuable crops without impoverishing the land, more than by a crop of corn or oats.

It is not probable that the first attempt would yield so largely as I have suggested above, but if you take the proper precautions, and are tolerably successful, you will realize from one acre about 1,000 bushels of

carrots, worth three shillings per bushel,	$375 00
300 lbs. flax. 10 cents per lb.	30 00
6 bush. flaxseed, 87½ cts. per bush.	5 25
Total	$410 25

To what use can an acre of land be applied, by which it will produce half the amount?—This may seem a large estimate, but it is nevertheless true; and if you wish to test the matter, try it next season.

Horses will work on carrots, nearly or quite as well as on oats, and keep in much better order. The transportation lines along the Canal, would find great economy in using them as a substitute for oats.

CARROTS.

Messrs. Editors,—In number six of your paper, I noticed an article on *Carrots*, in which that vegetable is strongly recommended as a cheap, wholesome, and invigorating food for horses, &c. Now, sirs, although I am neither an Agriculturist nor Horticulturist, and not much of a *Horseologist*, yet having, as I conceive, thoroughly tested the properties of carrots, as an article of food for horses, I beg leave to communicate the result of that test through the medium of your interesting journal.

In the summer of 1829, I became possessed of two horses, that were so lean and ungainly in their appearance, that they would have caused a "Rozinante" to blush for the degeneracy of his race. A neighbor of mine advised me to feed them on carrots: I did so—and their rapid regeneration equalled my most sanguine expectations. I continued this diet until they were in what is called good order, when having occasion to travel about four hundred miles, I resolved to ride one of the horses and have the other put to work. Before I got to my journey's end, however, I found that the horse on which I rode was losing flesh faster than he before had gained it, for which I was at a loss to assign any adequate reason; I finally concluded, however, that he was unwell. Having with much difficulty rode him home, I was surprised to find the horse which had been worked, poorer, if possible, than the "bony steed" which I bestrode—the former having been fed entirely on carrots. I communicated the circumstance to a gentleman in the neighborhood, who had been a drover for a number of years, thinking that he might probably account for the phenomena.

From him I learned, that whenever he became possessed of a poor horse, he immediately dieted him on carrots, mixing with them a little *oat* or *corn meal;* or else, after fattening them on carrots alone, he always fed them on meal, for two weeks, or more, before driving or working them; because, from the rapidity with which they acquire flesh, when fed on this esculent, their flesh is not solid. This I subsequently found to be the case.

As you truly observe, horses will fatten quicker on carrots than on any other diet, but I would recommend that they should be chopped fine, and mixed with meal, as their flesh, when fattened in this manner, will be much more firm and durable. Momus.

Rochester, Feb. 21, 1831.

CHESTER CO. PA. MUTTON.

[We copy the following account of mutton raised in Chester county, Pennsylvania, with great pleasure; and with equal pleasure attend to the call upon us for recorded weights of mutton. We do not recollect any thing on record to surpass the above of American production. We have reference to the average weight of the several lots of mutton. So far as we are at present informed, therefore Chester county is entitled to the palm. We should like to hear what Mr. Barney will say to it; if we are not mistaken he can make out a list of wethers that would contend powerfully with the Chester mutton.

We have several accounts of sales in England, of mutton that far exceeded the Chester sheep in weight. At the Smithfield Club Cattle Show in 1823, the carcases of Mr. Goude's Leicester prize wethers weighed 160 lbs. average, Mr. Powlet's weighed respectively 160, 155 and 132. The Marquis of Exeter's six Leicesters, shown as extra stock, weighed 140 lbs. 140, 153, 167, 167, 210 lbs. Mr. Adams's three Leicesters weighed each 187 lbs.

The dead weights of four wethers of the Dishley breed, twenty-one months old, bred by Mr. Champion, of Blythe, England, and exhibited by him at the London Christmas Cattle Show, Sadler's yard, in 1827, averaged 190 lbs. each.]

(From the Village Record.)

Two weeks ago we noticed the fine show mutton prepared for the 22d February. On that morning it was exhibited at the different stalls at the market-house in the Borough, and was all sold, we understood, at liberal prices.

We doubt whether so extensive a lot of fat sheep was ever before exhibited at one time, fatted in one county, in the state of Pennsylvania, and of course, in the Union. The following are the ascertained weights:

7 by Francis Hickman, of Thornbury.	5 by Jesse Mercer. do.
lbs. 134½	137½
132	111½
114½	123½
140	93
123½	106
120½	——
105	572
——	
870	

16 by John Bradley of Willistown.		4 by Joseph Gheen of Goshen.
105	——	125
108½	121	113½
123½	110	112
105½	123	103
125½	115	
121	——	
——	128	
——	124	

It will be seen that in the list of Mr. Bradley there are 4 blanks. These were doubtless the heaviest sheep in the flock, but as some doubt existed as to their precise weight, we have not thought it proper to insert them as reported.

It will be understood, abroad, we presume, that the weights were those of the carcass dressed. At the same time some excellent mutton was disposed of by Mr. I. J. Bennett, and also the fine fat ox of Jesse M'Call, Esq. which weighed 1125½, the beef being remarkably tender.

The Saturday preceding there were slaughtered in Philadelphia by Mr. Fow, ten sheep fed by Mr. John James of East-Bradford—of the following weights:

153	117
142	108
141½	125½
135½	113½
121	125
	——
	1282

Will the American Farmer editor please to tell us if they have any thing on record to surpass this.

Mr. James sold his at 10 cents a pound—the 10—of course yielded him $128 20—or 12 80 a piece on the average. The skins with the wool and loose or interior fat would be worth from 3.50 to 4—making the real value of the sheep something more than 16 dollars each, not allowing expense of slaughtering.

Mr. Bradley was offered for the skins and wool of his $3 40 all round—he asked 4. The person told him to bring them to him and he would give him the highest price in the market. He probably obtained $3.87½.

We are glad to see the attention our farmers are paying to feeding sheep. The raising an abundance of mutton and wool is connected with the industry and prosperity of the country.

We enquired the mode of feeding, and learned from Mr. James, (the whole of whose statement was kindly given at our request,) that his sheep after being well kept over the last winter, were in good pasture the past summer until after harvest, when he began to give them grain, principally Indian corn—varied occasionally with oats so as to keep up the appetite—the quantity of the corn was increased so that as the cold weather of the fall came on—the 10 took about 13 quarts a day—that is to say, each sheep consumed in fattening, about 5 bushels corn, besides hay and grass.

On the stall of Mr. Bradley we saw one saddle weighing 100, for General Joshua Evans, to be sent on to Washington; and another, very fine, for Mr. M. Dawson of Philadelphia, and one for Mr. Wade of that city, which weighed 83 lbs. which before this time we presume, has been washed down, with a social party of friends, with old Madeira, a bumper or two being given to Chester county farming.

It appears we have fallen into an error in stating the weight of the oxen fed by T. S. Woodward of East-Bradford and slaughtered by Mr. Holtz for Thomas Temple. The weight was as follows:

1—1389.
2—1221.
Rough fat of the two—419.
Hides—250.

We have also the weight of three others fed this season by neighboring farmers, viz—by

Samuel Worth, of East-Bradford.
1—1488. Rough fat—234.
T. Hickman.
1—1289.
2—1154. Rough fat of the two—403.

If in Delaware, Lancaster, Montgomery, or any of the neighboring counties, they can tell us of finer oxen, meant to be right good, but not pampered for show, sent from two adjoining townships, that beats this; why, we are their humble servants.

Our friends at Chester have been feasting on fine fat beef too. An ox fed by R. Magowen, weighed—

Beef, - - -	1525
Rough fat, - -	300
Hide, - - -	167
	——1992

Pity but that they should have fed him a bushel or two more, so as to have brought him up to 2000.

MISCELLANEOUS.

(From the New York Farmer.)

THE UNION OF LABOR AND STUDY.

We have already adverted to this subject, and now return to it again, for the purpose of laying before those who are most concerned in such a discussion, the results of experience in those institutions, where the manual labor plan has been associated with study. Facts always form the safest guide.

The provision requisite to a manual labour academy.—The Southern and Western Theological Seminary at Maryville, Tenn., was begun by the purchase of a farm at $2,500. The horses, cattle, wagon, and farming utensils cost about a thousand dollars more. There is a boarding house where all the scholars upon charity are fed, and lodged.

At Danville, Ky, is a manual labor Seminary. The farm consists of 112 acres of first rate land, the necessary buildings are put up with logs, and are sufficient to accommodate 40 or 50 persons. The whole expense of the farm and the buildings was $3000.

At Germantown, near Philadelphia, is another Academy for the union of labor and study. The farm here has 72 acres, with the ordinary farming utensils, two horses, four cows, and other domestic animals, supplying out-door employment for more than a dozen students, and shop room for 6 or 7 more. The buildings will accommodate about 40 students. The property cost $8000.

At Andover, Mass., is a department for manual labor and study. A workshop is erected here, of rough stone, 65 feet by 40, capable of containing 75 laborers. The cost was about $3000.

The Episcopal church in Pennsylvania have lately purchased a farm of 80 acres in the state of Delaware, and near the river. They estimate the requisite amount for the purchase of the land, repairs of buildings, and stock, at $6000. They calculate *four hours* each day for every student to work, and *six or more* for study.

Expenses.—At Maryville the annual expense of each student for board, over and above his labor, which is only one day in the week, is $25.

At Danville, where they all labor two hours daily, the expense of board is reduced to one half the regular charge, when labor is not required.

At Germantown the labor in many cases is equivalent to the whole expense of board. In this place the students labor *four hours* every day, Sundays always excepted.

At the proposed Episcopal Institution in Delaware, it is intended that the daily labor shall about equal the expense of board; or in other words, that the steward or superintendent who takes the farm, shall, in general, accept the labour of each student for *four hours* each working day, as sufficient pay for the board of each student.

The diet in each of the places named, is generally plain, consisting of meat and bread, vegetables, milk and fruit, but no tea and coffee.

The kinds of labor.—At Maryville, farming only is used.

At Danville also, the labor is wholly agricultural.

At Germantown, are various kinds of joiner work, especially of the plainer kind; horticulture and agriculture, together with the management of horses and cattle.

Studies.—It is the concurrent testimony of all the above named institutions, that the studies of the students are in nowise impeded by their manual labor. The opinion is strongly held, that their attainments are in every respect equal to those who devote their whole time to study.

Condition of admission.—In most of the Seminaries now reviewed, the performance of labor is an indispensable condition to membership.

Remarks.—It will be seen by the preceding articles, that no doubt can exist as to the practicability of the plan of uniting labor and study. The project, indeed, does not derive its feasibility from mere recent experience. Some of the best scholars, and most useful men in our country, have passed through this hardy course of mental training. Their education has been prosecuted amid the interruptions incident to laborious avocations. Their hands, hardened with severe toil, and accustomed to the rougher implements of agriculture, have not been deemed unfit to turn over the volumes of science, and form the figure 5 of mathematical calculation. Of how many intelligent men do we learn this simple fact; that they are self-taught? In almost every such case there has been a union of labor and study. Labor has made the study sweet, and study has, in its turn, softened labor.

The above article is from our respected contemporary "the Columbian Star."—If additional facts and arguments are required to enforce the propriety, and indeed absolute necessity of labor, call it by what term you choose, gymnastic, agricultural or mechanical, and perhaps each in turn ought to be had recourse to by students, it would be sufficient to refer to the experience of Pestalozzi, and above all of Fellenberg in his celebrated establishment at Hofwyl.—Ample and very satisfactory details on this engrossing subject will be found on reference to the American Journal of Education. We are satisfied, by intimate experience, and we may say personal suffering, that sad injustice is done to human nature in the common systems of education, by a neglect of suitable and regular physical exercise; directed as well to the immediate preservation of health and prevention of numerous ailments, as to the learning of some useful handicraft employment, and acquiring the ability to use our senses and limbs with that readiness and accuracy so useful in the various situations of life, whether of daily business or unforeseen peril and emergencies.

FLIES UPON PICTURES.

The following simple way of preventing flies from sitting on pictures, or any other furniture, is well experienced, and will, if generally used, prevent trouble and damage:—Let a large bunch of leeks soak four or five days in a pailful of water, and wash the picture, or any other piece of furniture with it: the flies will never come near any thing so washed.

If you would have the state prosperous, you must make the men of principle the priocipal men.

THE FARMER.

Baltimore, Friday, March 18, 1831.

On entering upon a new volume the Editor has only to remark, that his best energies will be exerted to make the succeeding volume of the American Farmer fully equal to any of its predecessors; and he feels authorised, by the promise of original matter from many respectable individuals, in hoping that his exertions will not be in vain. He takes this occasion to solicit contributions from practical farmers. The smallest article will be acceptable; such as the result of any particular practice or mode of culture, whether successful or not, (for the publication of the unsuccessful result is often as beneficial, as that of a successful one, by saving the time and expense of others;) facts relative to crops, stock, &c.

We particularly regret that no one has furnished any thing relative to the improvement of worn-out land, which we solicited a few weeks since. We earnestly repeat the request, that those who have made such improvements furnish us with the mode by which they have done it; for we deem this subject one of paramount interest, and worthy the attention of all farmers in the old settled parts of the country. We know that many farmers have succeeded in improving land, to the admiration of all who have seen it; and we know further, that much more is necessary and can be accomplished, if those who have been successful will lend us the aid of their counsel, and we hope they will not withhold it.

Information is also much wanted in relation to the plan of State Agricultural Boards, suggested in a late number of the Farmer. We desire to obtain the opinion of practical farmers on the subject, and such hints for the perfection of the plan, as may suggest themselves to those to be immediately benefited by it. The more we reflect upon it, the more are we convinced of its utility, and even necessity, and we hope we shall not be left entirely alone and unassisted in enforcing it upon public attention—for we shall certainly pursue it till it is accomplished, or till we are convinced of its inexpediency,—of which latter, however, we can offer no encouragement to the most obdurate let-us-alone, old-system, no-system advocate, for we are getting stronger in the faith every day, and expect to live to see every old field in the Old Dominion, Maryland, and other old states, teeming with heavy crops and verdant pastures; every county and state furnished with an active and intelligent Board of Agriculture; and the United States, free and independent, physically and morally, as they now are politically, of all the world; when we shall not only make our own bread, and raise our own meat, but wear our own clothes, dress our wives and daughters in our own silks, besides furnishing other countries with supplies of all our products, and drink a bumper to the improvement of our condition, of wine from our own vineyards. And will not such a state of things be worth labouring for, and the sight of it worth living for?

Premium Agricultural Essays.—A country so essentially agricultural in its interests, and possessing a population so intelligent, as the United States, ought to produce more original matter for the press, on subjects connected with husbandry. The political, and scientific press, teems with fresh matter weekly and daily; while the agricultural is very much neglected. The cause to which we attribute this want of agricultural writers may be inferred from the remedy we are about to propose. No one, it is presumed, will attribute it to a want of subjects, or ability on the part of our farmers—there is no country on earth where more abundant materials exist for agricultural essays, and none possessing a greater proportion of intelligent writers among its agriculturists. Without, therefore, attempting an elucidation of the evil caused by this dearth of agricultural matter, and believing that its existence is sufficiently apparent, we proceed to the remedy, or such a one as we think will be at least partially effectual.

We propose to award premiums for original Essays on the three great divisions of the agricultural interest, to wit:—

1st. For the best Essay on any subject strictly Agricultural, a perpetual free subscription to the American Farmer, to begin with the 13th volume.

2nd. For the second best Essay, of the same character, five years' subscription, to the American Farmer, beginning with the 13th volume.

3d. For the third best Essay of the same character, one of the previous volumes of the Farmer, handsomely bound.

4th. For the best Essay on any subject strictly Horticultural, a perpetual free subscription to the American Farmer, to begin with the 13th volume.

5th. For the second best Essay of the same character, five years' subscription to the Farmer, beginning with the 13th volume.

6th. For the third best Essay of the same character, one of the previous volumes of the Farmer handsomely bound.

7th. For the best Essay on any subject of Rural Economy, a perpetual free subscription to the American Farmer, to begin with the 13th volume.

8th. For the second best Essay of the same character, five years' subscription to the Farmer, beginning with the 13th volume.

9th. For the third best Essay of the same character, one of the previous volumes of the Farmer.

The Essays offered for the above premiums will be submitted to a committee of respectable, intelligent, and practical agriculturists; and to secure to the successful competitors the premiums for the best essays in the three departments, their names will be regularly entered on the books of the office as subscribers for life, charged one hundred dollars therefor, and credited by premium Essay in full, which will bind as well our successors as ourselves to a faithful performance of the contract.

In judging of the merits of the Essays, all things else being equal, a preference will be given to practical over theoretical treatises; but no deficiency of style, inelegance or errors of composition, will be allowed to militate against the success of an Essay, the matter of which in a more comely dress would have obtained a premium. (The Editor will take pleasure in supplying such deficiencies.) The particular subjects for the Essays in the three departments of Agriculture, Horticulture, and Rural Economy, are left entirely to the suggestion of the writers themselves; as are also the length of the Essays and the propriety of accompanying their publication with the proper names of the writers, though we always prefer proper signatures.

Essays for the above premiums will be received until the 1st day of June, at which time all that may have come to hand will be submitted to the judges, whose award, with the first prize essay, will be published in the first number of the American Farmer after the decision. Those who do not wish their names published may accompany their Essays with a sealed paper containing their names, and which will not be opened unless it obtains the premium, and then only to enable us to award it.

Publishers of papers in all parts of the United States are particularly requested to give the above an insertion, as it is believed it may be the means of doing much good to the Agricultural interest.

Prices Current in New York, March 12.

Beeswax, yellow 19 a 21. *Cotton*, New Orleans .10 a .11; Upland, .8½ a .10; Alabama, .9½ a 11. *Cotton Bagging*, Hemp, yd. 18 a 20; Flax 12½ a 16; *Flax*, American, 7 a 8.——*Flaxseed*, 7 bush. clean .—— a .—— *Flour*, N. York, bbl. 6.87 a ——; Canal 6.75 a 7.12½; Balt. Hwd. st. 6.87 a 7 00—; Rh'd. city mills 6.75 a ——

country, 6.75 a 6.87½; Alexand'a, 6.87½ a 7.00; Fredericksburg 6.75 a ——; Petersg. 6.75 a 6.87½; Rye Flour, —— a 4 00; Indian Meal, per bbl. 3.50 a 3 62½; per hhd. 16.50 a 16.75. *Grain*, Wheat, North, 1.40 a 1.45; Vir. 1.35 a ——; Rye, North, — a 80; Corn, Yel. Nor. .— a 75; Barley, 78 a 79; Oats, South and North, .33 a .40; Peas, white, dry, 7 bu. 5. Beans, 7 bu. 7.00 a 8.00. *Provisions*, Beef, mess 8.50 a 9.00; prime 5.50 a 6.25; cargo 4.50 a 5.00; Butter, N. York, 12½ a 16; shipping, 8 a 11; Lard, 8½. a .9; Pork, mess bbl. 13.00 a 14.25; prime 9.75 a 10.37½.

TALL MEADOW OAT GRASS SEED, FRUIT TREES, &c.

The subscriber has received, from one of the best Farmers in Virginia, a small supply of excellent Tall Meadow Oat Grass Seed, which he offers for sale—price $3 per bushel. He will also contract to supply any quantity of the ensuing season's growth, at $2.50 per bushel, when ten bushels, or upwards, is taken. Orders will be received until the 20th of April.

RUTA BAGA.—He has also on hand about one hundred pounds of the superior Ruta Baga seed, raised by a gentleman of Baltimore expressly for the encouragement of the culture of this root, which will be sold at one-third the usual price, to wit—25 cents per pound.

SUNFLOWER SEED.—He has also for sale a few bushels of Sunflower seed, raised by Mr. Barnitz of York, who has been so successful in extracting the oil, which will, without doubt, supersede the olive oil, and is equal to the best Sperm oil for lamps.

FRUIT TREES, &c.—The subscriber is agent for Prince's nurseries, at Flushing; Parmentier's, at Brooklyn; Kenrick's, at Newton, near Boston; Smith's, at Burlington, N. J.; Landreth's and Carr's, at Philadelphia; and Willis's, at Oxford, E. S. Md.; for any of which he will receive orders for fruit and ornamental trees, shrubbery, greenhouse plants, &c.—He will also furnish every description of fruit and ornamental trees, greenhouse plants, shrubbery, &c. upon his own responsibility, when purchasers prefer leaving the selection of the nursery to him; in which case he will be responsible for the genuineness of the articles, and charge a commission of ten per cent. upon their cost. He will here observe, that he can obtain any fruit or ornamental tree, shrub, vine, or greenhouse plant, that can be found in America; so that no doubt need be entertained on that score. Orders for trees, shrubs, and plants, should be handed in immediately, as the season for transplanting is advancing.

GIDEON B. SMITH,
A. 4t—P. G. *Office American Farmer, Balt.*

GARDEN SEEDS.

Received by the ships Belvidera, and Robin Hood, my usual supply of first rate *Garden Seeds*, from the same gentleman that has supplied me to the present with such excellent seeds. These seeds are raised by one of the first Botanic Gardeners in the neighborhood of London, and as I receive them direct from him, there never has been, or will be, any mistake or deception in quality or kinds of seeds. It is a fact well known to every experienced gardener, that European garden seeds, especially cabbage, cauliflower, brocoli, early radishes, &c. produce incomparably better crops than can be obtained from seeds raised in this country. The above are for sale, wholesale and retail, at No. 78 Bridge street, second door from the Independent Engine house, Baltimore. SAML. AULT.

P. S. Orders from a distance, with remittance, postage paid, will be promptly attended to.

March 18.

SILK FILATURE.

The subscriber respectfully informs those persons engaged in the culture of Silk, that he has invented a small and convenient machine, which performs all the different parts of silk filature, reeling and twisting, at the same time. It draws the fibre from the cocoons, and forms the thread with any desired degree of twist; so that it may be prepared for warp, filling, or sewing silk. It can be managed by children, who require very little instruction to work it. Its cost will be sixty dollars. Orders received by Gideon B. Smith, Editor of the American Farmer, or the subscriber,

March 18. JAMES HACK, *Savage Factory.*

LINNÆAN BOTANIC GARDEN,

Flushing, near New York—Wm. Prince and Sons, proprietors.

Fruit and Ornamental Trees, &c.—The supply of apple, pear, peach, plum, and other fruit trees, at these extensive nurseries, is now uncommonly large, and the quality of the trees never surpassed. Without going into particulars, the proprietors would remark, that there is no fruit or ornamental tree, vine, shrub, or plant, greenhouse or otherwise, of any value, that they cannot supply. They therefore refer to their catalogues, which may be obtained of their agents gratis. Particular attention is paid at these nurseries to packing and forwarding in proper condition, all articles ordered. Orders should be sent in early, to GIDEON B. SMITH,

March 18. *American Farmer Office.*

KENRICK'S NURSERIES, AT NEWTON, NEAR BOSTON.

The proprietors of this old establishment beg leave to inform the people of the middle, southern, and western states, that they have appointed Gideon B. Smith, Editor of the American Farmer, their agent in Baltimore, for receiving and forwarding orders, and attending to the receipt and delivery of trees, &c.

The Kenrick nurseries contain every variety of fruit and hardy ornamental trees, shrubbery, &c. Their apple, peach, pear, cherry, plum, apricot, and nectarine trees, are not surpassed by any in the Union, either for quality of fruit or healthfulness and vigor of trees.—This nursery was established forty years ago by the present proprietors, who can therefore recommend with confidence any article sent from it. It is considered an advantage possessed by this nursery, that the season is much later at Newton than at New York or Philadelphia, and therefore trees may be safely taken up for transplanting ten days later in the spring than at those places.

Catalogues may be obtained, gratis, in a few days; and orders for trees, &c. received by

GIDEON B. SMITH, *Agent,*
March 18. *Office American Farmer, Balt.*

AGRICULTURAL WAREHOUSE AND SEED STORE.

The subscriber would inform the public that he has the following articles in store for sale, all of the best materials, faithfully and well made, viz.

Gideon Davis' highly approved Patent Ploughs in all their variety—Davis' ploughs improved as more adapted to stiff soils. Bar Share and Coulter Ploughs improved. Substratum and Shovel Ploughs, Cultivators for Corn and Tobacco. His Patent Cylindrical Straw Cutters, superior to any other article of the kind in use, also Dutch Cutting Boxes, Wheat Fans, Threshing Machines, an assortment of Hoes, Shovels, and Spades, Hay and Manure Forks, Cast Steel Axes, Wove Wire, together with a variety of other implements of husbandry of the most approved kinds. Also a general assortment of the Messrs. Landreth's Garden Seeds, which are fresh, and of prime quality, Clover and other Grass Seeds. Fruit and ornamental Trees, Bulbus Roots, Flowers, &c. furnished to order. Likewise Peirson & Walker's superior Mule and Jenny Spindles. J. S. EASTMAN.

N. B. Plough castings kept constantly on hand to supply the place of those worn out, also all kinds of repairs done at short notice. J. S. E.

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General Agent for the State of Maryland, T. B. Breono.

BALTIMORE PRICES CURRENT.

Baltimore Market.—There is no change in any article of country produce since our last. Sales of Howard street flour were made on Wednesday at $6.75 from stores, but we hear of none at that rate since. Indeed all operations seem to be suspended to await the arrival of foreign news, the nature of which it is expected will decide the question of a further advance. Sales of wheat and other grain have been made at our rates. Beef is steady at our quotation. The spring business has opened with considerable briskness.

Tobacco.—Seconds, as in quality, 3.50 a 5.00; do. ground leaf, 5.00 a 9.00.—Crop, common, 4.00 a 4.50; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 10 00; yellow and red, 8.00 a 14.00; yellow, 14 00 a 16.00.—Fine yellow, 16.00 a 20.00.—Virginia, 4.00. a 5.00.—Rappahannock, 3.00 a 4.00——Kentucky, 4.00 a 8.00. The inspections of the week comprise 113 hhds. Md.; and 9 hhds. Va.; total 122 hhds.

Flour—best white wheat family, $7.00 *a* 7.50—super. Howard-street 6.62½ *a* 6.75; city mills, 6.50 a ——; Susquehanna, — *a* —; Corn Meal, bbl. 2.25 Grain; red wheat, 1.34 *a* 1.40; white do. 1.40 *a* 1.45 Corn, white, 65 *a* ——yellow 65 *a* ——new white — *a* .——yellow — *a* ——Rye, .60 *a* .62. Oats, .33 *a* 34. Beans, 90 *a* 1.00-Peas, 50 *a* 60—Clover seed 4.75 *a* 5.25 Timothy, 2.25 *a* 2.50—Orchard Grass, 1.50 *a* 1.75—Tall Meadow Oat Grass 3.00——Herd's, 75 *a* 1.00—Lucerne 30 *a* 37½ lb.—Barley, 62½—Flaxseed —— *a* 1.30—Cotton, Va. 9½ *a* 10½—Louisiana 11½ *a* 12½—Alab. .9 *a* .11—Tenn. .9 *a* .10—N. Car. .9 *a* .10½—Upland 9½ *a* 11½—Whiskey, hhds 1st p 29½ *a* 30; in bbls 30½ *a* 31—Wool, common, unwashed, lb. 15 *a* .16——washed, .18 *a* .20—crossed, .20 *a* .22—three-quarter, .28 *a* .30—full do. .30 *a* .35, accord'g to qual.—Hemp Russia, ton, $250 *a* -; Country, dew-rotted, 6½. *a* 7c. lb.-water-rotted, .7 *a* 8c.—Fish, Shad, Susquehanna, No. 1, bbl. — *a* —— do. trimmed, 7.00—North Carolina, No 1, 7.00—Herrings, Susquehanna No. 1, bbl. 3.75 *a* 4.00—Mackerel, No. 1, 6.37½, *a* 6.50—No. 2, 5.87½ *a* ——No 3 3.56¼ *a* ——; Bacon, hams Balt. cured 10c.—Feathers, 33 *a* —-Plaster Paris, cargo price per ton, 4.25 *a* 4.37½, ground, 1.37½ *a* —-bbl.-Iron, gray pig for foundries per ton 30.00 *a* ——; high pig, for forges, per ton, 25.00 *a* 28.00; bar, Sus., per ton, 80.00 a 85.00.—Prime Beef on the hoof, 6.00 *a* 6.25—Oak wood, 3.00 *a* 3.25—Hickory, 4.50 *a* 4.75—Pine 2.00 *a* 2.25.

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EDITED BY GIDEON B. SMITH.

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TERMS.

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5. Advertisements connected with any of the subjects of the American Farmer, inserted once, (seldom more) at one dollar per square.
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AGRICULTURE.

(From the "Transactions of the American Philosophical Society.")

Observations on the raising and dressing of Hemp; *communicated to the* American Philosophical Society, *by* Edward Antil, *Esq.*

Hemp is one of the most profitable productions the earth furnishes in northern climates; as it employs a great number of poor people in a very advantageous manner, if its manufacture be carried on properly: It may also furnish a ready remittance to the mother country, and become a reciprocal advantage to both; and therefore it becomes worthy of the serious attention of the different legislatures of the northern colonies, of every trading man, and of every man, who truly loves his country.

But as the people of America do not appear, from their present management, to be acquainted with the best and most profitable method of cultivating and managing this valuable plant, I beg leave to inform them of some things that may be of advantage to them.

Whoever would raise hemp properly and to advantage, should set aside two pieces of ground, of such dimensions each, as he shall be able to cultivate every year, and sow the one whilst he is manuring and preparing the other for the succeeding year's crop; the higher and drier the ground the better, provided it be well dunged and made strong and mellow; the ground should not be too sloping, lest the good soil be washed away with hard rains; if it droops toward the south, so that it may have the full influence of the sun, it will be an advantage; low, rich, warm, dry grounds will also produce good hemp; but wet land, though never so rich will by no means do. The ground being prepared and made very mellow, I now come to that part which must be particularly and exactly attented to, since the success of the crop greatly depends upon it. Some time in May, the ground being moist and in a vegetating state, but by no means wet, it must be well ploughed, the furrows close and even, the soil lying light and mellow, it must be sowed very even with two bushels of seed upon one acre; a man with an iron tooth harrow follows the sower, and harrows in the seed with two horses without any balks, for the less the ground be trampled the better; if harrowing one way be not sufficient to cover the seed, though it would be best if that could be done, it must be cross harrowed. The ground being moist as I said before, but by no means wet so as to clod, which would ruin the crop, the seed will all start and come up together, which is a sure sign of a good crop, and nothing after that, but too much wet, will hurt it; for hemp thus come up, bids defiance to weeds and grass of every kind; its growth is so quick and it so effectually shades the ground, that nothing below can rise or shew its head, and it so preserves all the moisture below, that the hotter and dryer the weather the faster it grows. Whereas if the seed be sown, when the ground is dry, the seed that lies deepest where the moisture is, will come up first, and these will shade and starve those that come after, by which means the first comers will be too large, and the last will be much too small, so that the crop will be greatly damaged every way: so much depends upon this one circumstance, of sowing the seed when the ground is moist and fit to receive it: the crop thus rightly managed will stand as thick as very good wheat, and be from four to six feet high, according to the strength of the ground; and the stems will not be thicker than a good wheat straw; by this means the hemp will be the finer, it will yield the greater quantity, and it may be plucked from the ground like flax, which will be a very great saving: but if it be sowed thin, that is, one bushel to an acre, which is the common practice, it grows large, the hemp is harsh and coarse, and then it must be cut with hooks, which occasions great waste, for four or five inches just above the ground is left, by way of stubble, which contains the best and heaviest part of the hemp.

When the hemp has got its growth, and is fit to be plucked, which you will know by the under leaves of the carle, or he-hemp, turning yellow and falling off, the sooner it is pulled the better: it must then be bound up with straw bands, in single band sheaves, rather small than large, and each sheaf must be bound in two places; and the sooner it is carried to the water to rot the better: water-rotted hemp, if it be rightly managed, is every way better than that which is rotted on the ground: there is less waste in it, when it comes to be dressed; it looks brighter and fairer to the eye; it is esteemed to be stronger and more durable, and it always fetches a better price; besides it is much sooner done, and it is rotted more even and alike, and with greater certainty and exactness. Many people in America are acquainted with the method of rotting hemp in water, but as many more are not yet acquainted with it, I shall, for their information, set down the method of doing it. Hemp may be rotted in stagnated or standing water, such as ponds, pools, or broad deep ditches, and in such water it is generally four or five days and nights a rotting, and sometimes longer, according to the heat or coolness of the weather; it may also be rotted in running water as in a brook or river; and in such water three or four days and nights are sufficient, according to the weather. To know whether the hemp be rotted enough in either case, take a middling handful, out of the middle row, and try with both your hands to snap it asunder, if it breaks easy, it is rotted enough, but if it yet appears pretty strong, it is not, and must lie longer, till it breaks with ease, and then it must be taken out and dried as soon as possible. In handling the sheaves, take hold of the bands, and set them up an end against a fence, if one be near, or lay them down upon the grass, for the water to drain off, and then unbind them carefully, open and spread them to dry thoroughly; then bind them up again and house them in a dry tight place: the reason of handling the hemp in this careful manner is, that when it is well rotted, whilst it is wet the lint comes off with the least touch, therefore if it be handled roughly, or if while it is wet it be thrown into a cart and carried to a distance to be unbound and dried, it would be greatly hurt, and the owner would receive great damage by it, but when it is dry, it is handled with safety.

If the hemp be rotted in a brook or running water, the sheaves must be laid across the stream, for if they be laid down lengthways with the stream, the current of the water will wash away the lint and ruin the hemp: it must be laid down heads and points, two, four, or six thick, according to the depth of the water and the quantity of hemp; if the bottom of the river be sand, gravel, or mud, three good strong stakes must be driven down at each end, above and below, and three long strong poles must be laid on the hemp and fastened well to the stakes, in such manner as to force down the hemp under water, where it remains till it be rotted enough: though if a muddy stream could be avoided it would be best, because it is apt to foul and stain the hemp. If the bottom of the stream be rocky or stony, so that stakes cannot be drove down to secure the hemp under water and from floating away, then a rough wall must be made at the lower end of the hemp, and along the side, to keep it in, and strong poles or rails must be laid upon the top of the hemp and pretty heavy stones upon them so as to sink the hemp under water, where it must lie till it be rotted enough.

What hemp is intended for seed, should be sowed on a piece of ground by itself, which must be made very rich and strong; it must be sowed in ridges six feet wide, and the seed must be of the largest and best sort and sown very thin, at the rate of a peck upon an acre, or rather six quarts; for the thinner it is sown, the more it branches, and the more seed it bears; it should be sown some time the middle of April, and then the seed will not be ripe, till some time after the other hemp is done with. If you have no convenient place to sow your seed hemp by itself; then sow a border of six feet wide along the north and west sides of your hemp field; the reason of sowing your seed hemp in such narrow ridges or borders is that, when the carle, or he-hemp, is ripe, and has shed its farina on the fimble or female hemp, by which the seed is impregnated, and the leaves of the carle hemp fall off and the stem grows yellow, you may easily step in along the sides and pull up the carle hemp without hurting the female, which now begins to branch out, and looks of a deep green colour and very flourishing, and when the seeds begin to ripen, which is known by their falling out of their sockets, you may all along both sides bend down the plants and shake out the seed upon a cloth laid on the round, for as they ripen they scatter upon being shaken by a hard wind, or otherwise; then it must be watched, and the fowls and yellow birds kept from it, for they are immoderately fond of the seed; as the first ripe seeds are the fullest and best, they are worthy of some pains to save them; and the best way to do that is, to bend down the plants all along, on each side of the border or ridge, as is said above, and shake them over a cloth spread on the ground to receive the seed; if one side of the plant be rooted out of the ground by forcing it down to skake out the seed, there will be no damage, for the seed that remains will ripen notwithstanding; and the plant must thus be shaken every two or three days, till all the seed be ripe and thus saved; and this is much better than pulling up the plants by the roots, and shaking them on a barn floor, and then setting them up against a fence or the side of the barn, for the seed to ripen, and shaking them morning and evening on the barn floor; for by this method, which is the common practice, one third of the seed at least never comes to maturity.

It is well known to every farmer, that in the three bread colonies at least, the spring and summer seasons are of late years become very dry; so that a crop of flax is become very precarious, scarcely one year in seven producing a good one: this is a constant complaint in the mouth of every husbandman: now hemp does not require half the rain that flax does; this is a circumstance that is well worth the notice and attention of every farmer; and therefore by his raising hemp in the manner before directed, and by preparing it in the best manner for spinning and weaving into good cloth, he can with greater certainty supply all the necessary uses of his family; and by selling the overplus, he can purchase such things as his wife and daughters may think convenient on extraordinary occasions. This, however, need not hinder him from raising some flax every year: but I think that it is more for his interest to fix his chief dependence upon his crop of hemp, as that is more sure, and every way more profitable, the general run of seasons considered. And let him not be disgusted and think that I am about to persuade him, his wife and daughters to wear oznabrigs, for I can assure him that I have seen dowlass, which is made of hemp, worth five and six shillings the yard, which no farmer need be ashamed to wear.

I shall now endeavour to instruct the husbandman in a few easy rules, for preparing his hemp, which he has raised and managed in the manner before directed.

Know then that the best preparation of hemp for the manufacturing of cloth is to render it as soft and as fine as possible, without lessening its strength, and the easiest and cheapest way of doing that, is certainly the best. This is to be found out by a variety of trials and experiments; but till a better way be discovered, which I hope will not be long first, and with which I should be greatly pleased; take the following method, which is the best I have yet been able to discover.

If you have a large wide kettle, that will take in your hemp at full length, it will be the better; but if your kettle be small, then you must double your hemp, but without twisting, only the small ends of every hand must be twisted a little, to keep them whole and from tangling; then first of all lay some smooth sticks down in the bottom of the kettle, so as to lie across one another, three or four layers, according to the bigness and deepness of your kettle; this is to keep the hemp from touching the liquor; then pour some ley of middling strength, half as strong as what you make soap of, gently into the kettle, so much as not to rise up to the top of the sticks, they being kept down to the bottom; then lay in the hemp each layer crossing the other, so that the steam may rise up through the whole body of the hemp, which done, cover your kettle as close as you can, and hang it over a very gentle fire, and keep it simmering or stewing, but not boiling, so as to raise a good steam for six or eight hours; then take it off, and let it stand covered till it be cool enough to handle; then take out the hemp, and wring it very carefully as dry as you well can, and hang it up out of the way of the wind, either in your garret or in your barn, shutting the doors, and there let it remain, turning it now and then till it be perfectly dry; then pack it up in some close dry place, till you want to use it; but you will do well to visit it now and then, least any part of it might be damp and rot. You must know, that wind and air weaken and rot hemp, flax and thread very much. Then at your leisure, twist up some of the hands, as many as you intend for present use as hard as you can, and with a smart round smooth hand beetle, on a smooth stone beat and pound each hand by itself all over very well, turning it round from side to side, till every part be very well bruised; you then untwist it, and hatchel it, first through a coarse, and then through a fine hatchel: and remember that hatcheling must be performed in the same manner, as a man would comb a fine head of hair, he begins at the ends below, and as that untangles, he rises higher, till at last he reaches up to the crown of his head. The first tow makes good ropes for the use of the plantation, the second tow will make very good oznabrigs or coarse sheeting; and the hemp itself will make excellent linen. The same method of steaming softens flax very much.

(From the New England Farmer.)

WILD RICE.

Mr. Fessenden,—The following extract from Gilleland's "Ohio and Mississippi Pilot" may perhaps be interesting to some of your readers. "Among the vegetable productions of the western territory, north of Illinois and west of Green Bay, on the Ouisconsin and Fox rivers, the wild rice, called Folle avoine by the French, and Menomen by the Indians, claims particular attention. It grows in inexhaustible abundance, through all parts of the territory, in almost every one of the innumerable lakes, ponds, bays, rivers, and creeks. It is said to be as palatable and as nourishing as common rice, and if so, it will be incomparably more valuable. It grows where the water is from four to six feet deep, and where the bottom is not hard or sandy. It rises above the surface of the water from four to eight feet, and is often so thick as to prevent canoes from passing through among it. The stalk is soft like the bulrush, but grows in joints like reed cane, which it much resembles. It is usual for the Indians to force their canoes through it (just before it ripens) and tie it in large bunches for the purpose of preventing the wild ducks and geese from breaking it down and destroying it. When it is fully ripe, they pass through it again, and spreading their blankets in the inside of their canoes, they bend the bunches of the wild rice over them, and thresh off the grain with sticks; an operation which requires little time, and is generally performed by the women. After drying it in the sun, they put it into skins, for future use. This singular spontaneous grain grows no where south of the Illinois river, nor east of Sandusky bay. Every autumn and spring the wild ducks and geese resort to the wild rice lakes in flocks incredibly numerous. The Menomonies (Folles Avoines or Rice eaters) who live in this part of the country are distinguished for their comeliness."

May not the superiority of form and complexion possessed by the individuals of this tribe be in part attributed to the frequent and long continued use of this kind of rice? Professor Bigelow in his Collection of Plants, has given the following description of this under the name of Canada Rice, (*Zizania aquatica.*)

This interesting plant grows in deep water at the edges of ponds and sluggish streams. It resembles at a distance, slender shoots of Indian corn, but often grows to the height of five or six feet from the bottom. Culm jointed, as large as the little finger. Leaves broad-linear. Panicle a foot or more in length, the lower branches with spreading barren flowers, the upper with appressed, erect fertile ones. The seeds are blackish, smooth, narrow, cylindrical, about three quarters of an inch long, deciduous; within they are white and farinaceous. It is found in a brook near the Punch-bowl, Brookline; in the brook which divides Cambridge from West Cambridge; in July and Aug. The Zizania will probably at some day be an object of cultivation, since it affords a means of rendering useful large tracts of inundated ground, and stagnant water. Horses appear to be fond of it, and no plant employed as forage, offers a larger crop.

The grain afforded by this plant has the qualities of rice, and is yielded in large quantity. It is however very deciduous, and on this account difficult to collect, since the seeds drop into the water almost as soon as they are ripe.

Perhaps some of your correspondents or subscribers can furnish some further light upon this subject, and will be so obliging as to inform us whether the culture and growth of this plant has been commenced or attempted in any part of New England. There are many ponds, lakes and rivers in the eastern states having muddy bottoms and a suitable depth of water, now unproductive, where this nutritious kind of grain might be raised with little expense. The seed could undoubtedly be introduced by public spirited gentlemen who visit Detroit, or its vicinity, or by some seedsman through some of the traders in Michigan. And if this species has the valuable properties of the common rice, the introduction and cultivation of it is certainly a desideratum, and may hereafter become a source of additional wealth to New England.

Novus Strictor.

(From the New England Farmer.)

LEGHORN WHEAT.

Mr. Fessenden,—It may probably be recollected by some of your numerous readers that I offered a few remarks some time since through the medium of your paper relative to some experiments made with the Leghorn wheat. Further experiments justify the conclusion that our climate is not congenial to the production of the beautiful material, known by the name of Leghorn Straw, in any good degree of perfection; yet it appears to be a kind well adapted for the furnishing of the more important one, viz. *the staff of life*. That no error may arise as respects the particular kind, I would observe that a too treacherous memory led me to state in my former communication that the original seed was purchased at Mr. Russell's seed store, and requested that the date of the year when purchased (which I left blank) might be filled up by yourself, not doubting the correctness of my statement; this blank was accordingly filled agreeing with the date of the year when Mr. Russell had it for sale. This date was 3 or 4 years subsequent to the time that I purchased the original pint and consequently rendered *some* part of my communication perfectly irreconcilable. To the best of my recollection, now a diplomatic gentleman,* belonging to our government then at some court in Europe, procured one or two bushels of this wheat at or near Leghorn, which, with the mode of culture, was transmitted to New England, and the seed, or a part at least, was placed in the hands of some seedsman in Boston for sale, at 33 cents per quart. Having *sent* instead of purchasing it myself, I am unable to give a more circumstantial account. I have been thus particular that the two kinds, viz. the one I purchased, and *that* sold by yourself might not become confounded together and also to learn if possible how others have succeeded.

Further attempts, I think, warrant the conclusion that it is a valuable acquisition. The last season 82 rods produced 13½ bushels of clear wheat, weighing at this time *sixty-four* pounds per bushel; the near vicinity of the field to the barn gave a number of fowls an opportunity of laying it under severe contribution which continued until threshed, from which it may be reasonable to conclude that the *whole* product would have amounted to 15 bushels, at least. This was sown on land which had been comparatively well manured for two seasons previous, and mostly planted with potatoes, but no manure of *any* kind was applied the last season.

The effects of high manuring at the time of sowing appear to produce a great and luxurious growth of *straw*, but rather a diminution of *grain*. Although perhaps land could not be made too rich by the application of manure in previous years, as the same would then become completely incorporated with the soil. But one experiment has been made by sowing it with grass seed, and that *one* answered the most sanguine expectations, both as to grain and grass.

It need not probably be stated that wheat cannot be got into the ground too early after the frost is out, and the land becomes sufficiently dry to plough.

The method adopted previous to sowing has been to wash the seed and while wet apply as much air slaked lime as would adhere to the grain; this has been left in a heap from 6 to 12 hours. No *one* ear of smut has been observed in any season, and no disease whatever, except that a few straws scattered over the field appeared sickly soon after heading out; in these, after some fruitless attempts to ascertain the cause, were found, commonly at the first joint from the top, within the cavity, a very minute worm, exceedingly small, but whose ravages had cut off all communication between the root and head. My ignorance of entomology and the attacks of insects in wheat prevent me from determining whether it be a new unwelcome guest or whether it be the same species that is found under similar circumstances in rye while growing.

Whether the above described kind of wheat possesses any decided superiority over other kinds, I am unable to determine, having never raised any other, but the prevailing opinion in this vicinity is that *common* wheat cannot be raised to advantage, as it is subject to blast and mildew. If this opinion be well founded, this kind then does possess a very decided superiority, if future experiments produce the like effects as have heretofore resulted. Should any of your numerous readers have ever attempted to cultivate this kind of wheat either for the straw or grain it would be peculiarly gratifying to learn the results of their experiments.

Seth Davis.

Newton, March 1, 1831.

Bad Singing.—There was something of novelty, it is true, but not less of reason, in the proceedings of a late esteemed minister of New England, who at the close of a very badly sung psalm, read another to the choir, saying, "you must try again, for it is impossible to preach after such singing."

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* Mr. Davis probably alludes to the Leghorn wheat sent home in 1821 by Mr. Appleton, then United States consul at Leghorn.

(From the Genesee Farmer.)

WHEAT.

Having read an article in the third number of the Genesee Farmer, upon the cultivation of wheat, in which the variety known as the white flint, is somewhat favorably noticed, I am induced to give the following brief statement of the result of my experience in the cultivation of this and the red bald wheat:

In the fall of 1826, I assisted in the sowing of about twenty acres of ground to wheat, in which there was little or no difference in soil, time or preparation, and upon which was sown the three following varieties, viz—white flint, red bald, and beaverdam, or yellow bald. The latter produced but a light crop of wheat, although the growth of straw was greater than either of the others; the straw is very long, head short and light, and usually falls down before it fills; at least such has been the case in all the experiments that have come within my observation.

With respect to the others, there was no perceptible difference in their growth or appearance, except that the flint had rather the advantage in situation, from being more exposed to the sun than the others, and consequently, was rather more even in its growth. It was a beautiful field of wheat, and I think as well headed as any that I have ever seen of the kind. The following was the average per acre, while in the sheaf, and after thrashing. I give the number of bundles to show the difference in the heading of the two kinds, as the growth of straw was about the same:

Red bald gave 360 bundles, yielding 30 bush.
White flint " 356 " " 23½

Shewing a difference in favour of the Red of six and a half bushels per acre.

I have tried it since, and many of my neighbors have sown it repeatedly, and the result so far as I have been able to ascertain, has never been any more favorable to the flint, than the above, when sown upon the same soil, and at the same time. It appears to be a hardy plant, and withstands the vicissitudes of the season as well as any variety, and is usually a very flattering crop while on the ground, the straw is short and stiff, which prevents its lodging as much as most of the other varieties; but it fails in yield from the bundle or acre, and is much harder to thrash by hand, than any other that I am acquainted with. The farmers in this section, have pretty generally ceased to cultivate it. The varieties which are held in the highest estimation among them, are the red bald, red and white bearded, and a bearded variety, called the crate wheat, which has been lately introduced among us, and is very highly recommended by those who have tried it.—For my own part, I am not much acquainted with any of the bearded wheats, as I have as yet been able to raise as good crops of the red bald, as any of my neighbors have of the others. I give it the preference, from its being the pleasantest to work among.

The above statement and remarks are drawn from but a short and limited experience in agricultural pursuits, and are offered to the public, with the hope, that some one more acquainted and better able to throw light upon the subject, may be induced to take it up. W.

Yates co. 5th March, 1831.

Maple Sugar.—In the little town of Wilmington, Ver. no less than 33,000 pounds of Sugar have been manufactured in one year, and a town in the northern part of the State, the name we do not recollect, has manufactured 42,000 pounds. Even in this town, many of our farmers manufacture large quantities. In Westmoreland, many farmers produce *half a ton.*—One farmer in Gilsum has made 2200 lbs. In Maine, we have no doubt, the whole State might be supplied—so in Vermont. Maple Sugar when refined, is said to be superior to the best refined from the West Indies.—*Keene Sent.*

HORTICULTURE.

FRUIT TREES.

Mr. Smith: *Columbia, So. Ca. March* 16, 1831.

Dear Sir,—Any thing that may have a tendency to the improvement of our fruit trees, their health and permanency cannot be devoid of interest any where; but it must be so particularly in a country like this that is comparatively new. Mere speculations, even, are not to be despised when they are grounded on apparantly sound or plausible reasoning. I make, therefore, no apology for offering you for publication a few crude observations on the probable advantages of renewing our fruit trees by means of seeds, and I wish particularly to apply them to the grapevine.

I am not prepared to go the whole length in the theory, if not originated, at least powerfully supported by T. A. Knight, Esq. the justly celebrated President of the Horticultural Society of England, that trees propagated by grafts, layers and cuttings fully partake of the natural length of life of the parent stock, and finally decay as the parent does, without deriving all the advantages that are expected from the renewed life produced by the above named means. Without opposing opinions emanating from so high a source, or giving them my full and entire assent, I may, perhaps, without undue presumption, still doubt a little as to their fullest extent. We must, however, admit that the means which nature uses commonly for the propagation of the numberless genera and species of plants, by seeds, must be the best, and that any other mode, however successful it may be, must fall somewhat short of the perfection of the most natural one. It is not amiss to notice here, however, that what we consider perfection in fruit for the use of man, is sometimes very different from that perfection which nature always aims at, viz. the production of perfect seeds. The effect of long and careful cultivation has in many cases been that of suppressing the seeds in fruits as we find in several kinds of potatoes, both the "Convovulus Batata" and the "Solanum tuberosum," as also of several grapes, as the "Seedless Corinth," the "Sultana" and others; by which, though they are rendered more desirable for the table, and are therefore looked upon as perfected by culture, they are in truth, according to nature's views, degenerated. It may also be owing to this long state of cultivation in many of the European and other foreign grapevines, that their wood is pithy and weak, forming at best only low and weakly vines when compared with our stronger and more vigorously growing natives. The usual effect of long culture is certainly to diminish not only the size, but also the number of seeds in the berries of the grape, by which they are truly rendered more pleasant for the table, although impaired for their natural uses. Some of them have probably been propagated by means of cuttings and layers more than one or even two thousand years, and it is not surprising, if Mr. Knight's theory be true, that they have lost much of that vigor which is so remarkable in that family of plants in their native state. Whether this theory is correct in its fullest extent or not, it will not probably be disputed that there must be considerable advantages of renewing our valuable fruit trees and principally the vines by raising them from seed. It will be objected that fruit raised from seed, is seldom equal to that from which the seed was obtained. Although this is undoubtedly true, it must be admitted as equally so, that all the fine varieties are chiefly due to this mode of producing new varieties which are, moreover, probably perfected by culture. That the raising of fruit trees and vines by means of seeds requires time, expense, attention, and perseverance, I cannot deny; but is there any thing of value in this world that can be obtained without them? Among the vines raised from seed, a considerable portion of them are male plants which produce no fruit; these, however, need not be lost; for they may be used (as also the fruit bearing ones that are worthless as to the quality of the fruit,) for stocks for grafting the desirable ones upon.

I regret exceedingly that the difficulties attending the sending objects of this kind from this place, are so great as to be discouraging; else I should have thought in time of sending you a quantity of grape seed for distribution, which I have saved from my last crop. I should do it even now, late as it is, were it not that the conveyance by the stage is totally unsafe and very expensive withal. *Should it be desirable*, however, I intend saving a quantity next summer and forwarding them to you for the purpose of distribution.

If you think, sir, these desultory observations worthy of a place in the "American Farmer," I beg you will have them inserted, which may per chance be productive of some good, which is the only object, dear sir, of your obedient servant,

N. Herbemont.

(From the New York Farmer.)

List of Hardy Perennial Plants, calculated for Garden Borders, for Shrubberies, &c., with short descriptions. By M. Floy, Nurseryman.

(Concluded from page 4.)

Pinks, (Dianthus,) or Garden Pinks. The Pink and its various varieties are well known to the gardens. The florists have many beautiful sorts, some of them with great names, and high prices, they are deservedly great favorites, and ever will be so on account of their beauty and fine scent. They are the pride of June, are easily cultivated, and very hardy. The China Pink, *Dianthus Chinensis* is raised from seeds, and flowers the first year, although the roots will stand several years. There are many beautiful varieties raised from seed, and with care will generally produce the same kinds again. (See Carnation.)

Primula vulgaris, or common Primrose, native of Britain. It does not stand our winters without protection under frames. The double floweringkinds, of which there are three or four kinds, are very beautiful.

Primula polyanthus, a choice forest flower, of which a great many fine sorts are named in the florists' catalogues; they are very beautiful, but require the protection of frames and glasses in this country.

Podophyllum peltatum, May apple, by some called Mandrakes; native in shady wood, generally on moist ground; New England to Carolina; flowers white, the fruit is the size of a plum, and eatable. It is a curious plant with long palmated leaves, and is worth a place in the garden, being easily cultivated.

Polygala Seneka, Seneka snake root; native on the sides of hills, and in dry woods, in Canada, and throughout the Alleghany mountains: much used in medicine, and on that account a plant or two should be introduced in the medical department.

Prenanthes serpentaria, lion's foot, and rattle snake weed; native on the mountains of Virginia and Carolina; found also in Jersey, a valuable medical plant. I extract the following from Pursh's Flora as worthy of attention; flowers from August to October; about two feet high; flowers pale purple. "This plant is known by the inhabitants under the name of *Lion's foot,* and is in high esteem in curing the bite of the rattle snake.

"During my travels through the mountains of Virginia, I had an opportunity of being a witness to the efficacy of this remedy. A man living in Cove mountains, near the Sweet spring, was bit in the foot by a Moccasin snake, a species considered the most dangerous. An inflammation and swelling of his whole leg took place immediately; but by taking the milky juice of this plant, boiled in milk, inwardly; and applying to the wound the steeped leaves, which were very frequently changed, he was cured in a few days." (Pursh's Flora, page 499, vol. ii.—*Synginesia Equalis.*) The plant should be introduced into every garden, the whole plant, with its curious sinuated, palmated leaves, and the flowers growing in bunches, is in itself sufficiently interesting as an ornament to the garden independent of its medical qualities.

Phlox. This is a very beautiful tribe of American perennial flowering plants; 16 species are enumerated and all of them worthy a place in the flower garden; most of the species are natives of the southern states; but they bear cultivation in any part of the United States, being perfectly hardy.

Phlox setacea, or moss Pink, a beautiful little spreading plant; and when in flower, the plant is completely covered with the blossoms, which are pale rose colored with a purple star in the centre.

P. paniculata: flowers purple, stem from three to four feet high.

P. undulata, a beautiful plant, resembling the former, but later; flowers same color as the former.

P. pyramidalis, flowers a beautiful purple; the plant not so tall as the two former species.

P. latifolia, flowers purple and large.

P. maculata, flowers purplish violet, or purple; stem spotted with brown dots.

P. suaveolens, flowers white, sweet scented and beautiful. I have frequently seen a purple variety, and sometimes on the same plant.

P. carolina, flowers beautiful pale purple, the size of P. suaveolens.

P. glaberrima, flowers deep purple.

P. speciosa, flowers white with a purple centre. They appear in such abundance that they cover the *shrub*. This species was found on the plains of Columbia by M. Lewis.

P. aristata, flowers red and sometimes white.

P. divaricata, flowers purplish blue; plant of low growth.

P. ovata, flowers beautiful reddish blue.

P. stolonifera, flowers blue, with a purple centre. The whole tribe are easy of cultivation, and will grow in any part of the garden.

Polemonium cœruleum, or Greek Valerian; a very pretty perennial flowering plant; native of England, and worthy of a good spot in the flower garden; there is a variety with white flowers from the same country.

Polemonium reptans; a native in the mountains, on the side of rich hills of Pennsylvania; flowers sky blue.

Ranunculus asiaticus, a great florist's flower, who enumerates hundreds of varieties introduced from the *Levant*. Nothing can exceed, in magnificence, a fine bed of Ranunculuses of all colors, shades, and tints; but the same difficulty attends their cultivation in this country as said before of *Anemones*. I would advise the same kind of management. (See Anemone.)

R. aconitifolius plenus, double white mountain Ranunculus, or Fair Maids of France; this beautiful little white flower is rather shy of cultivation here, and can scarce be kept at all; it might be treated in the same way as the Asiatic Ranunculuses, but still, being a mountain plant, our summers are too long and hot for it. The roots frequently rot in summer.

Rhexia virginica, and two or three other beautiful sorts, natives, from New York to Carolina, ought to be introduced to the American border. [A. B.]

Rheum palmatum, Turkey Rhubarb; a very valuable medicinal plant, at present very scarce, but ought by all means to be generally cultivated. The rhubarb sold in the shops is from inferior kinds, generally of the two following species; this kind may be known from the others by its large *palmated* or hand-shaped leaves.

R. rhaponticum, and *R. tartaricum*. These two kinds are the rhubarb sold by the druggist, imported from India, but are very inferior to the true Turkey, palmated kind. The plants are perfectly hardy, and there is little need of importing rhubarb; the plants produce seeds well, and any quantity may be raised in this country; they are as hardy as dock roots.

R. undulatum compactum, hybridum. These three kinds are generally cultivated, and the stems of the leaves used for tarts, which are very fine eating, by some preferred to gooseberry tarts. They are worth cultivating for culinary purposes.

Rudbeckia purpurea, a very ornamental showy perennial; flowers large, rays purple, centre brown, native on the mountains from Virginia to Florida.

R. fulgida; rays dark orange colored, centre deep purple; native, mountains and woods, from Pennsylvania to Carolina. The above, with several other fine sorts, may obtain a place in the garden; they are easily cultivated.

Sarracenia pupurea, side saddle flower; a native of our swamps, generally abounding with water; as it is a very curious plant the leaves resemble pitchers, and are usually full of water. The flower has a curious appearance. The plant may be grown in wet moss for their curiosity, occasionally watered.

Solidago, or Golden rod; of which there are a great many native sorts; these, with the asters, constitute the principal flowers of the fall. In Europe they find a place in the flower gardens; we have them here wild all over the country.

Sanguinaria Canadensis, or Blood root; the flowers are white, the root of a blood red; it is used in medicine, and worth attention; a native of the woods in low places from Canada to Florida.

Scutellaria lateriflora, a skull cap; the flowers are small, blue, and grow in racemes, or long bunches. As this is the famous plant said to be a certain cure for *hydrophobia*, or bite of a mad dog, and as there are several other species scattered over the country, the true kind may be distinguished from the others by the description of the flowers, growing in *racemes;* the plant is found generally in meadows, and by the side of brooks, from Canada to Carolina; the flowers appear from July to September, and plants may be taken up with a good ball of earth, and planted in a shady part of the garden. They are easily cultivated, also, by seeds.

Spigelia Marylandica, pink root; a beautiful perennial, with large scarlet flowers; native from Maryland to Carolina, on the edges of woods, in rich moist soil; this plant is highly deserving a place in the garden, although it requires protection here during the winter; it is, and has long been, highly esteemed, and the roots under the name of pink root, sold in the shops as a certain cure for worms in children.

Spiræa filipendula pleno, a beautiful double, white, flowering perennial, native of Britain.

Spiræa ulmaria, Meadow sweet, queen of the meadows; also native of Britain, both deserving a place in the garden for its sweet flowers.

Spiræa aruncus, native of the mountains, Pennsylvania to Georgia; flowers white, a very elegant plant, quite hardy.

Spiræa lobata, a beautiful perennial plant, flowers red, in large clusters; native in meadows, Virginia to Carolina, quite hardy and easily cultivated.

Spiræa trifoliata, native in shady woods, and on bogs, from Canada to Florida, principally in the mountainous parts thereof; flowers large, white and showy, and easily cultivated.

Tradescantia Virginica, an old resident of the gardens, carried from this country to Europe, two hundred years ago, and esteemed for its curious blue flowers. There are two pretty varieties, one with pure white flowers.

Tradescantia rosea, flowers, rose colored, and very handsome; a native of Carolina and Georgia; but quite hardy here and readily cultivated.

Trillium. The Trilliums are a curious and beautiful tribe, very ornamental. The flowers are universally of three petals, and the leaves grow in threes; called by botanists *trifoliate*—probably from this circumstance, the name Trillium is derived; being all native of shady woods and swamps. They are cultivated in the common garden soil, and ought therefore to be planted in the American border. I shall enumerate all the known species, some or other of the kinds may be found in all our low woody swamps, or on the borders of them.

T. sessile, native from Pennsylvania to Carolina; flowering in April and May; the flower a dark chocolate brown; very purple.

T. petiolatum, not generally known here; the plant was found by M. Lewis, on the waters of the Kooskoosky; flowers resemble the first species; leaves very much like *plantago major*.

T. pictum, native of high mountains from Canada to Carolina, in bogs; flowers with purple veins at the bottom; berry scarlet.

T. ovatum, native of Columbia river; discovered by M. Lewis; not much known here; flowers pale purple.

T. cernum, native in shady, rocky situations, from Pennsylvania to Carolina, particularly on the banks of the Schuylkill, near Philadelphia; flowers in May; petals white; berries purple. This may be considered the largest of the genus.

T. erectum, native in boggy soil, Pennsylvania to Carolina; flowers in May, dark purple, sometimes white, changing to red, with a red germ; berries almost black.

T. pumilum, native of Pine woods in Carolina; flowers deep flesh color.

T. obovatum, native of Canada near Montreal; flowers dark rose colored, probably white when first opening.

T. pendulum, native of the mountains of Pennsylvania; flowers April and May; petals of a dirty white with netted veins.

T. grandiflorum, on the mountains and rocky banks of rivers, Virginia to Carolina; flowers in May, large, white; berries dark purple.

Veronica spicata, flowers blue, in long spikes, and a very pretty perennial; native of Europe.

Veronica Virginica, flowers white, growing in spikes; and handsome; native on the mountains and hills, in sunny exposures, in many parts of the country. There is a variety said to grow in the mountains in Virginia, with purple flowers, and growing very tall.

Verbena bracteosa, a beautiful little perennial, of low growth, and covered with handsome light purple flowers; native in Kentucky, and the Illinois; quite hardy, and easily cultivated.

Viola odorata, sweet violet; the pride and ornament of the spring; perfuming our gardens with their fragrance; flowers white; native of Britain.

Viola odorata, flore pleno purpurea, the double blue sweet violet, requires protection in the winter; but their fragrance and beauty deserve a little trouble; the double white variety is not so well known here, but ought to be introduced. Of American violets there are above twenty sorts; many of them should be cultivated.

Yucca filamentosa, a very stately plant, with spikes of large white bell-flowers, growing from six to eight feet high; a native from Virginia to Florida; the plant is easily cultivated, and very hardy.

Dionea muscipula, Venus's fly trap. This little delicate curious plant, with leaves in the form of a rat trap, which spring up and catch the poor flies that trespass upon them. The flowers are pretty large for so small a plant; native of moss bogs in North Carolina, and has not been found, I believe, in any other part of the country.

Bulbous Roots.—I shall enumerate such kinds as are most worthy of attention, and generally cultivated in our gardens; many of them are well known and need little description, but I wish to call particular attention to some of our native lilies, which may be had for the trouble of digging up and planting.

Hyacinth and Tulips, of which florists enumerate hundreds of varieties by the fanciers: they are imported from Holland every year; a choice flower garden ought to be ornamented with them.

Narcissus, several species and varieties.

Crocuses, Crown Imperials, Amaryllis, &c.

Polianthes tuberosa, called Tuberoses, have beautiful sweet scented white flowers, sending up a spike of flowers three feet high, and perfuming the air around them; the roots should be taken up in the fall and kept dry, until May, when they should be planted again; the frost will kill the roots if left out in the garden.

Dahlia, or *Georgiana.* This is a most splendid, showy tribe of flowers, and the florists in Europe enumerated hundreds of varieties, but as the choice double kinds are the only ones worth attention, and as new sorts appear of finer quality, the old kinds are rejected to give room for their new comers. The roots should be taken up, and receive the same attention as the Tuberose roots mentioned before, namely, to plant them in the spring and take them up in November, as the frost will kill them; the root was first carried to Europe from Mexico; hence, America claims their origin. As a few names of some of the finer kinds cultivated here, might be acceptable, I subjoin a list of a few kinds that flowered here last summer as deserving of notice.

Double Dahlia; 1st, gloria florum supreme, grows taller than any other kind I have seen, about fifteen feet high, flowers very large and double, of a fine rose red color. 2d, *Beauty supreme,* very double, not quite so tall as the former, flowers red, with a little white. 3d, *Purple superb,* a very beautiful double purple, grows pretty high. 4th, *Miller's George the 4th,* this has a very fine rich scarlet color, not quite so tall as the former. 5th, *Sans rivale,* not quite so fine a scarlet as the former. 6th, *Speciossissima,* a fine double purple. 7th, *Camelliflora,* a beautiful double orange. 8th, *Prince Leopold,* a beautiful double, dark purple. 9th, *Pulchella,* a double light purple. 10th, *Rubella,* a double red. 11th, *French bright yellow,* a lively yellow with reddish centre, very showy. 12th, *Sulphur superb,* a most beautiful and full double yellow, very regular. 13th, *Alata triflora,* rather dwarf, about three feet high, flowers double, and generally growing in threes. 14th, *Princess victoria,* this is a very dwarf sort, growing about two feet high, and producing flowers all over the plant; a very desirable kind. "The roots, when planted, ought to have a good rich border, and the tall kinds ought to have good stout poles, well let down in the ground, to tie up the stems as they grow up, or the high winds would break them down.

Lilies.

Lilium candidum, or common white lily; a well known and ever esteemed inhabitant of all the gardens, esteemed for its long, white, sweet scented flowers.

L. bulbiferum, orange lily, now almost superseded by the next species.

L. tigrinum, tiger spotted lily; native of China, but very readily cultivated and quite hardy. The flowers are very large and beautiful, red and spotted, the inside of the flower having the variety of color of the spotted Tiger; hence the name.

L. superbum, native of all our meadows from Canada to Virginia, a very superb lily; the flower spike often seven or eight feet high, and having from twenty to fifty flowers; a beautiful lily, as it is a native of black swampy soil, it ought to be planted in the American border.

L. Canadense, the flowers are more inclined to yellow, and do not roll back like the former species, in other respects much like it; more frequently found in Canada, but is found as far down as Virginia; same treatment as the former. [A. B.]

L. Catesbœi, a very pretty little southern species; native from Virginia, but more frequently in Carolina, in low sandy meadows. The flowers scarlet, spotted with yellow and brown; probably will require a little protection here from our severe frosts.

L. Pennsylvanicum, a native of Pennsylvania and Virginia. Flower scarlet yellow at the base, with dark spots.

L. Philadelphicum, native in woods and meadows, from Canada to Virginia, a beautiful low plant about three feet high, flowers large scarlet, yellow near the bottom with dark spots; most generally found with one flower, sometimes with two or three, not so frequent; this species may be known from any of the others by the petals ending at the bottom narrow, or as it is called, clawed (unguiculatus.)

Grythronium lanceolatum, denscanis, or yellow dog's tooth, violet; native in woods near the roots of trees, very abundant from Canada to Virginia; flowers early in May; the roots are very small, about the size and shape of a dog's tooth, and not very easy to be found, except when they are in flower. The leaves are curiously spotted.

There are a number of other beautiful native plants that are worthy of cultivation, but I am afraid by giving a larger list, I might intimidate the young gardener. At some other time I may enlarge the list. I hope to succeed in introducing to the notice of our youth, a taste for the cultivation and study of the beautiful production of our native Flora. On examination of the above list, the American reader will probably be surprised to find that more than three fourths of the beautiful flowers so highly prized in European gardens, are actually natives of his own country, and many of them perhaps growing on his own farm. Many of the kinds destined for the border, which I call the American border, are very highly esteemed in Europe, and can scarce be kept there with all their care. As botany, particularly the medicinal part, should be familiar to all our students of medicine, as well as Doctors of Divinity, and Doctors of Law, and why not to all our youth generally? And here I would particularly remark, *learn the plants by their proper names;* they may seem rather difficult at first, but custom will render them quite familiar. You will then have the satisfaction of knowing that all nations can understand you, as the names are universally known in all countries, and get over the difficulty which often exists of calling the same plant by different names, causing confusion at home, and being totally unintelligible abroad; some of the common technical names in use, are generally invented by the first settlers, or the Indians; rather come up to the universal standard of the scientific names at once, not descend to the common barbarous names of the ignorant; and if you only learn the proper name and character of a plant a day, you will soon acquire a fund of useful knowledge, which the more you are acquainted with, the more you will wish to know. The study is innocent, healthy, and instructive to the mind. To conclude, many of the names of our fruit trees and shrubs are now commonly called by their proper names, such as *Magnolia, Azalia, Andromeda, Rhododendron,* &c. The task is easier than may be generally supposed; and it will raise the American character. A country abounding with Flora's finest gifts, ought to possess a people worthy of it. If any thing I have said, or may say, shall contribute to this desirable acquirement, I shall be amply compensated for having bestowed my mite towards it. If opportunity should occur, and my time permit, I intend to take up the subject of Fruit Trees, and to make a selection of choice kinds for the garden, from the Babel of names, three fourths of which may be dispensed with. A select assortment of valuable kinds *only,* should be cultivated; the same soil and the same care will produce the finer sorts that are required for the inferior.

How to prepare a border, called the American Border, for the reception of such plants in the list marked A. B.

1st. The border should face directly to the *north,* the south side screened from the sun by a close board fence. 2d. The soil should be taken out one foot deep and carted away; the border about five feet wide. 3. Prepare a composition of soil to fill up the border about fourteen or fifteen inches high; get from the low parts of the mountains, rotten vegetable *black mould,* which may be found every where in hollows and near rocks; and about the same quantity of *black swamp mould,* if a little sandy all the better, if not, add to it about one eighth of good clean river sand, and about one fourth of very rotten manure; mix this composition well together by turning it over three or four times; and then fill up the border about three inches higher than before. On the back part of the border may be planted *Rhododendrons, Azalias, Kalmias, Andromedas,* &c., with several other beautiful shrubs from the swamps; when the border is planted it may be covered with the *sphagnum,* or swamp moss, which will preserve the roots from frost, as well as to keep the roots moist. While on the subject of borders, I would advise a border to be kept for plants of a medicinal character only, where all the plants useful in Domestic Medicine may be kept; and let every plant be labeled with the proper name, so as to make every one in the family acquainted with it; this may be very important, lest mistakes should occur, when wanted for use in a hurry. The best labels are made out of pine or cypress shingles; if rubbed over with white lead the name may be written with a black lead pencil when wet, and will last for years.

This border might be either on the east or west side of the garden, about seven feet wide, each kind kept at a proper distance from each other.

Michael Floy.

New York, Feb. 1831.

(From the New England Farmer.)

PRUNING PEACH TREES.

One remark will be offered as to the mode of pruning. This ought to be effected by *heading down,* that is cut off *all* the top, to within 5 or 6 feet of the ground once in four years at least; no injury will result, but more healthy and vigorous wood will be formed and a greater quantity of fruit be produced; as peach trees seldom bear more than one or two years in succession, the succeeding spring after a bearing year should be selected to perform the operation. Young wood will then be produced, and if the season be favorable, yield a good supply of fruit the *next* year, as the second year's growth is that which mostly, if not always, produces fruit in the peach tree. The evils of a contrary course of pruning consist in the limbs towards the bottom of the tree becoming sickly and dying; the top running up so high as to be exposed to the wind and consequently being broken off, and often splitting the trunk to the bottom and affording a less quantity of *fruit* and that of an inferior quality. No better time for pruning peach trees perhaps can be selected than about the 1st of June. The *mode* and *time* of pruning may appear to those who have never made the attempt at variance with *their* ideas; but it is *experience, not* theory, that has dictated the above remarks.

Seth Davis.

Newton, March 1, 1831.

(From the Genesee Farmer.)

EVERGREENS.

We cultivate plants with a view to their rarity, as well as to their beauty. Through much of the Genesee country, evergreens are rare; and these, to the eye of taste, are particularly pleasing in winter; more pleasing when distributed by the hand of man, round his dwelling, than when seen in the forest—not that cultivated plants are more beautiful, but fewer and rarer.

Evergreens, in the colour of their leaves, vary exceedingly. *Andromeda calyculata* preserves through winter, a fine green, in the thick shelter of hemlock swamps; but it changes to a rusty brown in the open marsh. The unsheltered leaves of the *red cedar,* are also greatly discoloured; and the *hemlock,* in open situations, is a pale olive green. In unchanging verdure and brightness, I have seen no tree that excels the *balsam fir.*

The genus *Pinus* may be divided into three sections. 1. The *pines*,—several leaves in a sheath. 2. The *firs* and *spruces*.—leaves single, somewhat distichally or cylindrically arranged on the branches. 3. The *larches*,—leaves deciduous.

1. The white pine, (*Pinus strobus*) preserves its colour well through the winter, and the length and silkiness of its leaves, places it first on our list. The Norway pine (improperly so called, for it is not a native of Europe,) is also a fine tree; and grows on the high lands, in the southern parts of our district. It is the *Pinus monticola* of Muhlenberg. *Pinus variabilis* is said to be a beautiful tree, with leaves four or five inches long. Other species would add to the varied appearance of the shrubbery.

2. I recur to the balsam fir, (*Pinus balsamea*.) It is surprising, that the late *A. Parmentier* declared that "this is the only large evergreen which succeeds in this latitude." I cannot account for the mistake. Floy remarks, that these trees, when taken from the mountain, seldom succeed, unless placed in a nursery.—This is true, when set out in grass plats, and left to themselves. In droughts, grass lands become comparatively dry, while cultivated soils remain moist. I planted several from a swamp, in *Hector*,—rather shallow,* as most evergreens ought to be planted, and laid round plenty of old hay to keep the roots *moist* and *cool*, and to destroy the grass. With this treatment, nearly half the trees grew.

The silver fir, (*Pinus picea*) of Europe, is very elegant; and even clumps of our hemlock, (*Pinus canadensis*) should appear in extensive shrubberies. Those from open grounds will be the best; having better roots—having better tops, that is, having dense foliage, which clothes them from the ground upward, and which *no knife should touch*. In this case, taste and success are inseparable. Hemlocks which have grown in thick woods, generally die when the other trees are cut away, having nothing to shield their trunks from the heat.

The black spruce, (*Pinus nigra*) is found a few miles from *Ithaca*, and in some mountainous districts of Pennsylvania. Last season, I applied for it at three great nurseries, without success. Its dark green foliage makes a fine appearance in winter.

Pinus abies, from Norway, of a bright green, well merits a place beside our red spruce, with a denser foliage. The white spruce, (*Pinus alba*) abounds in several swamps of the Genesee country. I took two small plants of this tree from a morass, two or three miles N. E. of Geneva; and wrapping bog moss round the roots, (which had never touched bottom,) planted them in the garden. The moss supplied them with moisture till their roots were adapted to a harder soil; and I observed no diminution of vigor, notwithstanding the extraordinary change of situation. I prefer small seedlings to larger plants of stunted growth.

3. These are not evergreens; but the European larch, (*Pinus larix*) I find to be vigorous and hardy.

The genus *Thuya* includes the white cedar of our swamps, (*Thuya occidentalis*) and the Chinese Arbor vita (*Thuya orientalis*.) The latter preserves a better green in winter; but our species appears the more vigorous. The white cedar, like the white spruce, and the red larch, in our district, grows naturally, in swamps; but spreads on the dryest hills, when no longer imprisoned by other trees. It is very ornamental.

Our red cedar, (*Juniperus virginiana*) deserves further notice. Though a native of the precipitous banks of our lakes, I have seen one tree in a swamp of the outlet above Waterloo. This shows that it is also indifferent to soil. By the thick forest, this species was long confined to the banks of the Cayuga, near this place: but it now spreads eastward, into the open woods, in consequence of the scattering of the seeds by birds. Some years ago, I strewed more than a peck of those seeds in a neglected field; and many young trees have arisen from that sowing. The old trees afford food and shelter to the gluttonous *cedar bird*, which, in consequence, visit our fruit trees in greater numbers; but this evil admits of a remedy.

Of this genus, is the common juniper, (*Juniperus communis*) remarkable for its varied forms;—sometimes upright, like a post,—and sometimes with horizontal branches near the ground, rising in the shape of an ill-built hay-stack. The former figure is much admired; and to obtain it, sometimes a cord is wound spirally round the tree, which prevents the branches from spreading. I have found it difficult to transplant this tree, successfully, in autumn; but a branch which had been loaded with berries, and cut several feet from the ground, grew freely on being planted in a moist and mellow soil.

The savin, (*Juniperus sabina*,) a native of both Europe and America, is a low shrub; but it deserves a place with Juniperus, (*prostala?*) which forms thickets at the Falls of Niagara, and other places.

The shrubby horse-tail, (*Ephedra distachya*,) from the south of Europe, is also an evergreen, though leafless; and its branches resemble some species of *Equisetum*. It is perfectly hardy, easily increased, singular, curious, and ornamental.

Two evergreens, beautiful in summer by their flowers, and in winter by their broad leaves, (*Kalmia latifolia*, and *Rhododendron maximum*) have been found difficult to cultivate in some parts of our district. This difficulty is ascribed to the soil. It is a curious fact, that wherever the *detritus* of this calcareous region was deposited by the deluge, the *Laurels* do not occur. It is true there is a locality of *Kalmia*, on the the hill, north of Ithaca, near Fall Creek, among gravel, some roots of those plants penetrating the seams in the siliceous rocks; but I observed no deposits of calcareous matter. Those shrubs are too beautiful to be relinquished without many efforts.

Several other evergreens may be noticed hereafter.

2d mo. 12, 1831. D. T.

RURAL ECONOMY.

DISEASE IN SHEEP.

Mr. Smith: *March* 14, 1831.

The disease in sheep of which so much has appeared in your paper lately, and which is of really so much importance, is unquestionably owing to a fly that deposits its eggs in the nostrils of the sheep during the months of August and September, that find their way into the head and stomach of the animal. Now without denying the remedies recommended of snuff or gum aloes, I have been successful in preventing the disease by the free use of tar and salt, given the sheep in these months, when the fly make their appearance—spreading the tar on a plank in the sun, and sprinkling salt on it. The tar is offensive to the fly which the sheep get on their nostrils in licking the salt. I have also for several years with great advantage to the growth of wool, applied a mixture of tar and grease on the backs and neck of the sheep immediately after shearing, which also in my opinion prevents the fly from being troublesome to the animals in the hot months of the year, a practice I believe universally followed in England and Scotland, where so much wool is grown.

I wish your correspondent from Statesburg, S. C. would detail his means of building Pise, as I am satisfied it makes a more economical and healthy cottage than the log huts so common all over our country. I cannot obtain Johnson's book describing it, and want to know how the frame is made—if the earth is put in dry or moist, and what kind of implement is used in giving it cohesion—also what kind of earth is best.

You perfectly astound farmers every way by stating the proceeds of a small farm in the neighborhood of Baltimore. I should wish to see a statement of the sales and expenses of this farm, and now respectfully request the proprietor through your columns, to give us a detail of the productions of his farm, made and sold—and the expenses attending it. I feel satisfied that ninety-nine farmers out of a hundred, cultivate too much land, and do not cultivate well or pursue right means, which such statements as the one I wish to see might correct—indeed, I should think if such statements of farms in different parts of the country were published, they would amuse, if not instruct many like myself, A Constant Reader.

NEW FOOD FOR CATTLE.

Mr. Smith: *Mount Prospect, N. C., March* 15, 1831.

I have made a new discovery in fatting cattle, (however it may not be new to others, yet it is so to me,) I made a small experiment about twelve months ago, which encouraged me to try it more fully the past winter, and find it to exceed my expectations. The food is turnips and cotton seed boiled together, with a little salt in it,—it is preferable to any food I ever made use of in fatting cattle, or for milch cows. I make use of about equal quantities of each. Turnips alone, or cotton seed alone is very good to keep cattle alive through the winter; but when combined as above stated it excels any thing I ever tried for cattle. If you think the information worth publishing, perhaps it may benefit some of your southern subscribers.

Yours, very respectfully, Exum Lewis.

P. S. The turnips ought to be washed clean.

(From the Genesee Farmer.)

ON WATER ROTTING FLAX.

Messrs. Editors,—As you look abroad for a part of your patronage, I take the liberty of advising the farmers, through your paper, to water-rot their flax, it being the easiest, cheapest, and most profitable way of preparing it for dressing, either for market or home use. By water rotting the flax, the farmer will gain, in saving of labor, yield of flax, and in the price of the same, twenty-five per cent.

The best time for water rotting flax, is during the summer. Put the flax in small bundles, and steep it in still water about 48 or 60 hours. The farmer must judge of its being sufficiently rotted, by watching it while in the water. As soon as the lint or coat separates from the stalk, it is then time to remove and spread it out to dry, which will require three or four days; this depends, however, on the weather. A week's attention to it, in this manner, is sufficient to have it ready for cleaning.

Experiments have been fully made as to the strength and durability of cloth made from water rotted flax, and likewise that made from field or dew rotted; and the advantage in favor of the former, is about fifty per cent. Water rotted flax can be bleached immediately after it is dressed, so as to become as white and as soft as silk; while with dew rotted flax, nothing can be done.

The following is the manner of bleaching flax, and it is in the power of every farmer to try the experiment.

Boil it in ash ley of about half the strength necessary to make common soap, for two or three hours, then rinse it well in vinegar and water, or any other weak acid preparation, and lay it either in the sun or under cover, where there is a free circulation of air.

I feel confident, that if our farmers would try the foregoing experiments, they would be encouraged to cultivate this highly useful, and hitherto much neglected plant. E. Quinby.

A Mr. Gridley, who advertises some land in Georgia for sale, among its recommendations, says:—The land is said to be very valuable; but I never had the extreme pleasure of getting nearer than half a mile of it, not having prepared myself with a canoe. It is warranted to yield from 30 to 40 bushels of bull frogs, to the acre, and aligators enough to fence the tract.

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* I had this advice from my friend, *H. G. Spafford*.

Stock Farm in the Vicinity of Boston.

A prospectus of such an establishment has been issued, to be "devoted to the important object of breeding and rearing the best breeds of horses, neat cattle, sheep and swine; the receiving and selling on commission all kinds of live stock; and combining with these, the business of Agriculture and Horticulture, upon the most approved and economical system. The business also of disciplining young and refractory horses," &c. A skilful Veterinary Surgeon will also be added to the establishment. The whole is to be under the care and superintendence of Col. Samuel Jaques, of Charlestown, so extensively known by those who have attended to the march of improvement in the Husbandry of Massachusetts, as one foremost in its encouragement.—*Boston Pat.*

The following letter from Gov. Lincoln on this subject, is from the New England Farmer.

Colonel Jaques: Boston, *March* 8, 1831.

Sir—Having examined your proposals for the establishment of a Stock Farm, I take great pleasure in expressing to you my cordial approbation of the plan, with my best wishes for your success, in so important and interesting an undertaking. With the skill and experience which you possess in the rearing and management of stock, the public will have a reasonable assurance that there will be the best selection of domestic animals of every desirable race; and in the variety which such an establishment will present, the occasions and preferences of Farmers for Breeds of Cattle suited to different objects, will be abundantly satisfied. I know of no arrangement in rural affairs more important than that by which the properties of the breeds of domestic animals may be fairly tested by comparison with each other, under the same course of keeping and management. No two breeders will be found to feed and treat their stock in the same manner.—Hence the great uncertainty, as well as diversity, in the results of practical observation. Inferior animals, by more care, are often made to appear better, and give a greater product than others of decidedly superior qualities, with less attention. But by collecting individuals of different races into one establishment, and subjecting them to uniform treatment, under the same careful inspection, their characteristic differences will be ascertained, and the peculiar properties which recommend them for different uses and purposes of economy, will become well understood. The Feeder will learn how to select for the pasture and the stall. The Husbandman, who looks for strength, activity, and hardihood under the yoke, will not meet frequent and mischievous disappointments, and the Dairy will be sure of its products.

The benefit of such opportunity for comparison and for selection, in conformity with the particular interest of each purchaser, will be equally experienced by those, who are engaged in the rearing of horses, sheep and swine, with all which, as much as with horned cattle, it is now well understood, there lies the entire difference, in different breeds, between utter worthlessness, and great productiveness and value. Indeed I cannot but indulge much confidence, both in the utility of your scheme to the public, and in its rewards to your own excellent spirit and enterprise. I mean this remark should apply to your whole plan; as well to the part which respects the course of husbandry proposed on the land, as to the breeding and keeping of animals; although, as I am not acquainted with the precise character of the farm which you have selected, I beg to decline offering any opinion, as to the particular purchase, or the amount of the investment, which may be required for the establishment.

Your ob't serv't,

Levi Lincoln.

Unless your pretensions be very good, avoid being the principal speaker in a large company.

MISCELLANEOUS.

FLOUR.

A writer in the Boston Gazette, makes the following statements in relation to the actual exports of flour from the United States to Great Britain, and appends to it, his estimates as to the probable exports during the present year.

The entire exports of flour from the United States to all parts of the world in the year 1830, ending 30th Sept.	1,225,881 bbls.
And of wheat,	45,289 bu.
Which exceeded the average exports for eight years previous, about	400,000 bbls.
And of wheat,	20,000 bu.
The *average* exports of flour to G. Britain from the U: States, for eight years past, amount to	94,574 bbls.
But, owing to a deficiency of crop in England in 1828, our exports there for 1829, to meet said deficiency, increased and amounted that year to	221,176 bbls.
And owing to the deficiency of crop there in 1829, our exports in 1830, ending 30th of September last, amounted to	326,182 bbls.
Which exceeded the average export of eight years previous,	231,608 bbls.

During this period, it will be borne in mind, that the grain countries of the continent of Europe, furnished large supplies to Great Britain, and when the ports opened in England last summer, a large stock of grain and flour then in bond, was entered for consumption—so that at the close of 1830, (two months since,) there was not remaining in bond in all Great Britain in wheat and flour, to exceed 180,000 barrels flour.

We now come to the probable demand in England for the year 1831.

The consumption of Great Britain, is estimated at something like 14 millions of quarters, or say 112 millions bushels. The deficiency of the crops of 1830 is variously estimated—some say 1-5, some 1-4; and Ireland, a usual supply country is said to be shorter. Circular statements from sources in which much confidence is placed, estimate the quantity that will be required in England before the next harvest—from abroad—at two millions of quarters—equal to, say three millions and a half barrels of flour.

The next inquiry is, where is England to get this supply? or even half of it, without occasioning serious advancesin countries whence these supplies are drawn.

The reports from all the grain countries in Europe announce short crops—and some of them, instead of furnishing supplies, are more likely to need supplies themselves; and the disturbed state of the grain countries themselves—and the existence there of large embodied armies—even should no war occur, increases the difficulty of furnishing supplies to England. All now concur that the main supplies for England are looked to from the U. States.

It then behooves us to look at home and estimate our ability to furnish—having regard to our own wants for consumption, and that of markets about us on this side of the ocean, mainly depending upon us.

The ports of England will, no doubt, be open by or before the close of April—and as the stock in bond to be entered, will be far short of former periods, there is scarcely a doubt, also, that the ports will continue to remain open up to the result of the harvest. If the statements and estimates of deficiency and supplies prove any way near correct, a wide allowance may be made for error or exaggeration, and still leave us a market in England for the export of flour there for the year 1831, ending in September, equal to our entire export to all the places in 1830; and which export, from official data, may be seen to have exceeded the average exports of eight years past about 400,000 barrels.

THE FARMER.

Baltimore, Friday, March 25, 1831.

Ruta Baga.—The following letter was accompanied by a couple of very large, fine ruta baga turnips, in a perfectly sound and growing state, and which bear conclusive testimony of the unrivalled excellence of this root as winter food for cattle. Setting aside their superior qualities in other respects, the fact of their requiring no protection or housing in winter, is of itself an inducement to cultivate them of no mean consideration. In the south, particularly where no hay is made, they might be cultivated to very great advantage; and we would recommend them to the attention of planters who have plenty of cotton seed, as the best root that can be used to mix with that article as suggested by a correspondent in another part of this paper. The cultivation of ruta baga differs in no respect from that of the common turnip, except in the seed being required to be sown more thinly to give the roots room to attain their natural size. The gentleman who has been so attentive in this, and former instances, is the same who raised a large quantity of the seed for the express purpose of encouraging the cultivation of this valuable root, and sent a barrel of it to the Editor for gratuitous distribution last spring, and during the past winter sold another barrel of it to us at a price so low as to enable us to sell it at one third the usual price. There can be no question as to the genuineness of this seed, and we should suppose it would be an object worthy of the attention of farmers generally.

There is but about seventy-five pounds now on hand, and we hope for the sake of the agricultural interest, that it will all be taken. One pound and a half is sufficient for an acre of ground.

As to its excellence as food for cows and other cattle, no other proof need be sought than the appearance of Mr. T's stock, which, as appears from his letter, are fed mainly on ruta baga, and which for robust healthfulness, and even fatness, will bear a comparison with any cattle in the United States. The Editor has several times walked out to Mr. T's farm to see them, and can say unhesitatingly, that among the many hundreds his avocation has called him to examine, he has seen none which in all respects gave evidence of more excellent keeping. As to the effect of ruta baga on the flavour of butter and milk, the Editor has had no opportunity of a *palatable* demonstration; but has been assured by Mr. T. that it is in no respect perceivable, except in the superior richness of both. We are much indebted to Mr. T. for his attention in favoring the public with his experience in the culture and use of this valuable root through the medium of our columns, and take pleasure in forwarding his laudable endeavours to encourage the propagation of it.

Mr. Smith:

Sir,—I send you by bearer, two ruta baga turnips, which were pulled out of the open ground yesterday, where they have remained all winter without any covering whatever, and I am now daily pulling and giving my cows one bushel each per day, which causes them to be in as fine order as if it was the month of June; I have at least 100 bushels now in the ground, not one of which is in the least injured by frost. I hope this delightful food will induce some of our farmers to adopt the same system which I have pursued for many years with invariable success.

Yours, respectfully, H. T.

Baltimore county, March 22.

Our much respected correspondent N. Herbemont, Esq. will accept our thanks for the excellent letter which we publish in this number, on the subject of renewing, or rather replacing fruit trees and vines, by means of seed. Every orchardist will bear testimony to the necessity of some plan for effecting this object.

Many of our oldest and best varieties of the apple are evidently on the decline, and some of them have almost become extinct. For ourselves, we have yielded much more confidence to the theory of Mr. Knight, that trees propagated by cuttings, grafts, &c. partake of the natural length of life of the parent, than most people. Indeed, we are unable to account for the decay and even extinction of any variety of fruit trees, upon any other principle. As to reproducing the same fruit from seed, it is thought sufficient attention has not been paid to this interesting branch of horticulture. Has the mode of perfectly isolating the tree designed to be reproduced, from all others of the species, and taking the seed produced by it for the purpose, ever been tried? If not, we apprehend that by this means any variety of fruit trees might be replaced at pleasure. Certain it is that all vegetables not subject to hybridisement by the mixture of the pollen of other varieties of the same species, are reproduced from seed in perfection. Such, for example, as the mulberry, and some others. This fact would seem to argue powerfully in favour of the mode above suggested; for if there are no other apple trees in the neighborhood of the tree from which seed is desired, we may rationally conclude that the seed cannot have been hybridised by foreign impregnation, and consequently that it must partake of the character and qualities of the parent tree alone.

We shall take great pleasure in distributing the grape seed kindly offered by Mr. Herbemont, and would suggest that it might be sent by way of Charleston in time even for this season's planting. Any other seed or plant will be equally acceptable.

Prices Current in New York, March 19.

Beeswax, yellow 19 a 21. *Cotton*, New Orleans .10 a .11½; Upland, .8½ a .10¼; Alabama, .8½ a 11. *Cotton Bagging*, Hemp, yd. 18 a 20; Flax 12½ a 16; *Flax*, American, 7 a 8.——*Flaxseed*, 7 bush. clean .—— a .—— *Flour*, N. York, bbl. 6.75 a 6.87; Canal 7.00 a 7.25; Balt. Hwd. st. 6.87 a 7 00—; Rh'd. city mills 7.00 a—— country, 6.65¾ a 6.75; Alexand'a, 6.75 a 6.87½; Fredericksburg 6.62½ a 6.68¾; Petersg 6.68¾ a 6.75; Rye Flour, —— a 4 00; Indian Meal, per bbl. 3.50 a 3 62½; per hhd. 16.50 a 16.75. *Grain*, Wheat, North, 1.50 a ——; Vir. 1.45 a 1.48; Rye, North, 80 a 82; Corn, Yel. Nor. .— a 75; Barley, 80 a —; Oats, South and North, .35 a .40; Peas, white, dry, 7 bu. 5. Beans, 7 bu. 7.00 a 8.00. *Provisions*, Beef, mess 8.50 a 9.12½; prime 5.50 a 6.25; cargo 4.50 a 5.00; Butter, N. York, 12½ a 16; shipping, 8 a 11; Lard, 8½. a .--; Pork, mess bbl. 13.00 a 14.25; prime 9.75 a 10.50.

FOR SALE.

The imported horse Commodore, the property of Charles A. Williamson, Esq.; is a blood bay, sixteen hands high, has great bone, fine symmetry, and great muscular power. He was got by Caleb Quotem, a son of Sir Peter Teazle, (see Stud Book, vol. 2, page 87.) Caleb Quotem, was sold by Lord Fitzwilliam, to the late Lord Montgomery, for one thousand guineas, his dam was a Diomed mare, bred by Earl Fitzwilliam in 1788. Her dam Desdemona by Marske, out of Y. Hag, by Shin, Crab, Childers. Commodore's dam Mary Crown, (see stud book, vol. 2, page 216,) was bred by Mr. Golding, got by Guilford, son of Highflyer, by Sir Peter. His Grandam was Mr. Golding's famous racer Vixen, by Pot8os, out of Cypher, by Squirrel, &c.

The Commodore's colts are the finest stock in the country, and the most respectable testimonials can be given of his blood and pedigree.

If not disposed of he will stand at Geneva, Ontario county, New York, at $25 the season.

Enquire of James H. Woods, Geneva, N. Y.
March 25

AGRICULTURAL CHEMISTRY.

A few copies Sir Humphrey Davie's Agricultural Chemistry, just received, and for sale at the office of the American Farmer.

FRESH EUROPEAN GARDEN SEEDS.

The subscriber has just received from Europe a small supply of the very best seeds of the following kinds, growth of 1830, and raised by one of the first horticulturists in Europe:—Cabbage, Early York, Early George, Wellington, Sugar-loaf, Ox Heart, Bonneuil, late German or Dutch, Red Head, curled green Savoy; Dutch Asparagus, blood and yellow Beet, Nasturtium, Long Red and Yellow Carrot, Solid Celery, Curled Endive, Cauliflower, (early and late,) Brecoli, (white and purple,) White Dutch Cucumber, Long Green do. Windsor Beans, Long Pod do. Prickly Spinach, Early Head Lettuce, (several other kinds,) mellons, the best kinds known in Europe, Onion, white, pale and deep red, Long Parsnip, Curled Parsley, six weeks' Peas, Tomatoes, Early round Turnip, round Dutch yellow Turnip, early long rose coloured Radish, early rose coloured Turnip Radish, Sea Kale, &c.; altogether forming one of the most choice assortments of seeds ever imported. Those who wish to obtain such seeds for spring planting, are advised to send in their orders early. Orders to the amount of five dollars can be sent by wagons to any part of the western country, and by water to any part of the southern states.

GIDEON B. SMITH, Farmer Office.

N. B. A quantity of Ruta Baga seed of excellent quality, price 25 cents per pound.

AGRICULTURAL WAREHOUSE AND SEED STORE.

The subscriber would inform the public that he has the following articles in store for sale, all of the best materials, faithfully and well made, viz.

Gideon Davis' highly approved Patent Ploughs in all their variety—Davis' ploughs improved as more adapted to stiff soils. Bar Share and Coulter Ploughs improved. Substratum and Shovel Ploughs, Cultivators for Corn and Tobacco. His Patent Cylindrical Straw Cutters, superior to any other article of the kind in use, also Dutch Cutting Boxes, Wheat Fans, Threshing Machines, an assortment of Hoes, Shovels, and Spades, Hay and Manure Forks, Cast Steel Axes, Wove Wire, together with a variety of other implements of husbandry of the most approved kinds. Also a general assortment of the Messrs. Landreth's Garden Seeds, which are fresh, and of prime quality, Clover and other Grass Seeds. Fruit and ornamental Trees, Bulbus Roots, Flowers, &c. furnished to order. Likewise Peirson & Walker's superior Mule and Jenny Spindles. J. S. EASTMAN.

N. B. Plough castings kept constantly on hand to supply the place of those worn out, also all kinds of repairs done at short notice. J. S. E.

THE HIGH BRED IMPORTED IMPROVED DURHAM SHORT-HORNED BULL BOLIVAR

Will be at Franklin, on the Franklin Turnpike road, about four miles from Baltimore—during the months of January, February, March and April next.

At Epsom farm, near Towsontown, seven and a half miles from Baltimore, on the York Turnpike road, during the months of May, June, July, and August next; and at Franklin, in September, October, November and December.

Terms.—Five dollars, to be sent with each cow.

This Bull was selected by Mr. Coates, the keeper of the Herd Book, without limitation of cost, and was highly valued by Colonel Powel, who considered him in form, points, and pedigree, equal to any animal to be had in Great Britain.

Bolivar is red and white, was bred by J. Whitaker, Esq. England. The singular neatness of his shoulders, the straightness of his back, the width of his loin, the smallness of his head, neck, and offal, the quickness of his gait, together with the well known character of his family as dairy stock, render him one of the most desirable males for improving our neat cattle that can in any country be found.

The committee on Neat Cattle at the exhibition of the Pennsylvania Agricultural Society, reported as their opinion, that Bolivar was "*the handsomest and best Bull that has ever been exhibited at any of our shows.*"

Bolivar is at the Epsom Farm at present.

Dec. 17.

BALTIMORE PRICES CURRENT.

Baltimore Market.—The flour market is in a state of perfect inactivity, owing to the absence of advices from Europe. The wagon price of Howard street yesterday was down to $6—we could hear of no sales from stores, purchasers having entirely withdrawn, and therefore our quotation must be considered nominal. There has been a decline of about five cents in wheat. Clover-seed has also declined, the season for transportation having passed. In corn, rye, &c. no change.

Toaacco.--Seconds, as in quality, 3.50 a 5.00; do. ground leaf, 5.00 a 9.00.—Crop, common, 4.00 a 4.50; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 10.00; yellow and red, 8.00 a 14.00; yellow, 14.00 a 16.00.—Fine yellow, 16.00 a 20.00.—Virginia, 4.00. a 5.00.—Rappahannock, 3.00 a 4.00——Kentucky, 4.00 a 8.00. The inspections of the week comprise 321 hhds. Md.; 15 hhds. Ohio; and 7 hhds. Va.; total 343 hhds.

Flour—best white wheat family, $7.00 *a* 7.50—super. Howard-street 6.25 *a* 6.37½; city mills, 6.25 a——; Susquehanna, — *a* —; Corn Meal, bbl. 2.25 Grain; red wheat, 1.25 *a* 1.34; white do. 1.35 *a* 1.40 Corn, white, 64 *a* 66—yellow 64 *a* 66—Rye, 60 *a* .62. Oats, .33 *a* 34. Beans, 90 *a* 1.00-Peas, 50 *a* 60—Clover seed 4.50 *a* 5.00-Timothy, 2.25 *a* 2.50-Orchard Grass 1.50 *a* 1.75—Tall Meadow Oat Grass 3.00—Herd's, 75 *a* 1.00—Lucerne 30 *a* 37½ lb.—Barley, 62½—Flaxseed 1.30———Cotton, Va. 9 *a* 9½——Louisiana 11½ *a* 12¼—Alab..9 *a*.11—-Tenn..9 *a*.10—-N. Car..9 *a*.10½——Upland 9½ *a* 11½—Whiskey, hhds 1st p 29½ *a* 30; in bbls 27 *a* 27½—Wool, common, unwashed, lb. 15 *a*.16——washed,.18 *a*.20-crossed,.20 *a*.22--three-quarter,.28 *a*.30--full do. .30 *a* .35, accord'g to qual.-Hemp Russia, ton, $250 *a* -; Country, dew-rotted, 6½. *a* 7c. lb.- water-rotted,.7 *a* 8c.—Fish, Shad, Susquehanna, No. 1, bbl. — *a* —— do. trimmed, 7.00—North Carolina, No. 1, 7.00—Herrings, Susquehanna No. 1, bbl. 3.75 *a* 4.00---Mackerel, No. 1, 6.37½, *a* 6.50--No. 2, 5.87½ *a* ——-No 3 3.56¼ *a*——; Bacon, hams Balt. cured 10c.—Feathers, 33 *a* —-Plaster Paris, cargo price per ton, 4 25 *a* 4.37½, ground, 1.37½ *a* —-bbl.-Iron, gray pig for foundries per ton 30.00 *a* ——; high pig, for forges, per ton, 25.00 *a* 28.00; bar, Sus., per ton, 80.00 a 85.00.—Prime Beef on the hoof, 6.00 *a* 6.25—Oak wood, 3.00 *a* 3.25--Hickory, 4.50 *a* 4.75—Pine 2.00 *a* 2.25.

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EDITED BY GIDEON B. SMITH.

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TERMS.

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5. Advertisements connected with any of the subjects of the American Farmer, inserted once, (seldom more) at one dollar per square.
6. All letters concerning this paper must be directed to the publishers. They must be free of postage, except communications intended for publication, and letters containing money.

☞ All Postmasters are requested to act as agents for the Farmer; they are authorised to retain $1 for each new subscriber, and 10 per cent. on *all other* collections.

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AGRICULTURE.

(From the New England Farmer.)

Extracts from the Reports of the Essex Agricultural Society in 1830.

ERASTUS WARE'S STATEMENT.

To the Committee of the Essex Agricultural Society on Farms.

Gentlemen.—The farm known by the name of the Pickman farm, of which the subscriber is at present, and has been tenant for nearly eleven years, is situated in the southeasterly part of Salem, and contains four hundred and twenty-eight acres of pasturage, tillage, and mowing. The pasturage includes about three hundred acres much broken, of every description, from wet pond holes to barren rocks. No attempts have been made to improve this pasture other than clearing the bushes and draining some low parts, as there is no prospect of a remuneration for such labor. The amount of land under tillage, the present year, has been about twenty-one acres, and the amount of upland or English mowing, is sixty-three acres. Of the tillage and mowing lands, a considerable part, consists of thin gravelly soil, of better than a medium quality, and favorable to most grain crops: and another part consists of a clayey soil, resting on a clay pan, retentive of moisture and yielding good crops of grass and potatoes under liberal manuring and cultivation. The farm is well watered. Much of the mowing and tillage, in the spring of the year, would naturally be overflowed; so that much labor has been necessary to prepare and lay it down to grass in beds, that the water may be carried off in drains.

Some of the most productive grass land on the place has been in this way reclaimed from an unprofitable marsh or swamp, and made to yield very large crops of English grass. We have no land on the place which is irrigated by any artificial process. There is of wet meadow land not more than five acres, which is never tilled, but drained and yields good stock hay. We have of salt marsh thirty-nine acres, generally yielding good crops of black grass. This is ditched, from which well known advantages arise; but no other labor is expended, other than taking the crop.

Of the cultivated land the present year,—
Five and a half acres were sown with barley,
About seven acres were sown with Indian corn,
Four and three fourths acres with potatoes,
One acre with mangel wurzel,
One third of an acre with onions,
And one half of an acre with crook-necked winter squashes.

Small parcels were cultivated with garden vegetables for the family, and supply for the retail market, the produce of which I cannot conveniently account for.

Many of the mangel wurzel plants were destroyed by worms, and their places supplied by ruta baga.

The manure used on the place, has been principally made by the stock kept on it. I have carted into my barn-yard bog mud, damaged hay, and obtained from the neighboring beaches, sea wreck and eel-grass, which I put in my hog styes,—kelp, rock weed, &c. which I put directly on the grass land. For small grain crops no manure is applied by me, on the year of their being sown, unless the land is very wet and cold.

My Barley was raised on ground, on which the preceding year I had a very good crop of Chenango potatoes, which I manured with coarse manure spread and ploughed under the sward. My Indian corn this year, contrary to my usual practice, was raised on land which was planted the preceding year with Indian corn—spreading and ploughing under coarse manure both years. But the sward being so completely bound with twitch-grass I could not subdue it in one year. I have found a crop which shades the ground most perfectly is the most effectual in destroying the twitch-grass—and this was an inducement to plant corn a second time, in drill rows, and I have thereby effected my object in destroying that pernicious root. My corn was raised on a gravelly soil, as before described. In the former part of the season it appeared small, but it afterwards grew with great promise until a severe gale in August blew it down, so that it was necessary to cut it up green, and shock it in the field till it was dry. The crop was much injured, but I was satisfied that cutting it up green was my best way.

My potatoes, except a few raised on the borders of some of the fields, were raised on ground newly broken up, and the manure, at the rate of eight or nine cords per acre, taken from the barn-yard, composed of litter and the deposits of the cattle, was spread and ploughed under the sod. The soil, on which the potatoes grew, was moist and clayey. The potatoes were ploughed, and hoed twice, and harrowed once between the rows,—the seed, of the Chenango kind, of excellent quality.

The corn was hoed three times, but not hilled as has been customary; and upon a comparison of that not hilled, with a small piece, which was in some degree hilled, after a severe gale, I am satisfied that no advantage is gained by hilling as was formerly practised. My opinion is that there is no benefit derived by hilling corn,—and corn raised on a flat surface, when the weeds are destroyed and the ground kept loose, is by no means so likely to suffer by the drought, or to have its roots impeded in the search after their proper nutriment, as where the ground is drawn up round the stalk in a high and steep hill.

The manure applied to my other crops was of the best kind I could procure, and applied as nearly as can be ascertained at the rate of about ten cords to the acre; for crops of potatoes and Indian corn, my experience leads me to apply my manure spread green and fresh, believing that by so doing its strength is best preserved and much labor saved.

For smaller crops, and tap rooted plants, I prefer manure that is fine and well rotted.

The amount of crops raised this season on the farm is as follows:—

Of Potatoes,	1220	bushels.
Mangel Wurzel,	600	‘
Ruta Baga,	50	‘
English flat turnips,	850	‘
Onions,	150	‘
Indian Corn,	280	‘
Barley,	137	‘
Squashes,	3½	tons.
Cabbage,	3	‘
Cider,	120	barrels.
Apples of best quality,	1200	bushels.
English hay,	115	tons.
Second crop,	8	‘
Fresh Meadow,	6	‘
Salt Hay,	40	‘

Of garden vegetables the family have had an abundant supply, and we have had an assortment and supply for retail in the market, since the first of August with some fruit which has been taken while growing and ripening, so that I cannot give an accurate account of the amount.

The severe gale in August very much injured the crops of corn; shook from the trees, nine hundred bushels of unripe apples, which were partly manufactured to very little advantage into cider, and lessened much the expected profits of the orchard.

Of the above crops, the grain, vegetables, and fruit are of nearly correct measurement; the amount of hay is given by as accurate an estimate, in each load, as could be made by an experienced and disinterested individual.

The hay on the farm is generally a mixture of herds-grass and red-top, with some clover. The amount of seed used in laying down land to grass is a peck and a half of herds-grass and three pecks of red-top to an acre. There is usually enough of clover seed in the manure, and it cannot be sowed to advantage in rich moist land. When I sow grass-seed in the spring I sow barley with the grass-seed. I have been very successful in laying down land to grass in the fall, after taking a crop of potatoes, in which case nothing but grass seed is sown.

The number of bearing trees on the farm is as follows:—of apple trees (almost all engrafted and many with very choice fruit) mostly young, 763—pear trees, 65—cherry trees cultivated, 50. In addition, I have a nursery containing 3000 trees—most of which have been engrafted or budded. Of the apple-trees, some of them are in orchards, of which the ground about the roots is cultivated, and occasionally manured, when the condition of the tree requires it; others are planted by stone walls; and all of them are annually pruned. In the choice of kinds of apples, regard should be had to the use they are wanted for. If for the market or your own table, I would recommend the *Ribstone Pippin, Spitzenburg, Spice Pearmain, Nonpareil.* For elegant and delightful early winter apples, in eating in October and November, the Pickman Pippin (a name that we have adopted not being able to trace its origin beyond this farm) will compare well with any other apple within my knowledge. The trees are of a thrifty growth, and handsome form. We consider this one of our most profitable apples for cultivation. The Mammoth Pippin is valuable for its superior size only.

There are two barns on the place, one 100 feet in length and 35 feet in breadth, the other recently built, 114 feet in length and 42 in width. In the latter the milch cows are commonly kept. It has a cellar under the whole, the main part of which is for manure and receives all the deposits of the cattle.—A portion of this cellar is enclosed for the storing of fruit and vegetables.—The barn has a floor through the whole length. The cattle are principally placed on one side, and the hay comes to the floor on the other. The centre over the floor from scaffold height is at last filled to the ridge. The barns are not large enough for storing all the hay, and considerable quantities are necessarily kept in stacks out of doors.

The live stock kept on the place are as follows:—oxen, 6—cows, 50—heifers, 5—bull, 1—horses, 3—fatting swine, 9.—The weight of pork fatted is not yet ascertained, as the hogs have not been killed—but the average weight of my swine, last year, was about 300 lbs. each—and this year, the result will probably be about the same.

The chief object of the farm is the supplying of milk for the market in Salem, where it is sent twice a day in summer; once in winter—a distance of about two miles. The number of gallons sent to market, during the year ending the first of the present month, is 13,870—butter made in the same time, 550 lbs.—cheese (called four meal cheese) 600 lbs.—of calves, in the same time, have been received for those fattened and sold, 154 dollars; the others have been killed as soon as the milk of the cow was fit for use; their skins sold for 50 cents each, and the carcass boiled and given to the hogs.—The cows are all of native breed, and are generally bought when young from the country; as stock of this description cannot in my situation be raised to advantage.

The amount paid for labor the past year has been eight hundred forty-three dollars, thirty-seven cents. From which is to be deducted for extra labor in building stone wall, and for men and team employed off the farm for the town, &c. two hundred and sixty dollars—leaving the net amount of cost of labor upon the farm, *five hundred eighty-three dollars, thirty-seven cents.* My own labor and the labor hired in the house, is not included in the above estimate.

The laborers on the farm are freely supplied with family beer, molasses and water, milk and water. Cider is not preferred in warm weather, except with food. No ardent spirit is used on the farm except for medical purposes, and for that probably not to exceed one gallon in a year.

I have endeavored to give as correct and full a statement as in my power. I have ever been used to agriculture from my youth; but have had no other advantages than those derived from actual experience. So far as my opinion on the subject may be deemed of any importance, it is in favor of an alteration of crops on the same land, and an occasional change of every kind of seed.

All of which is respectfully submitted.

Salem, Dec. 8, 1830. Erastus Ware.

MANGEL WURZEL.

The committee take pleasure in recommending the premium of $20 to be paid to Mr. Gideon Foster, of Charlestown, Middlesex county, for his admirable crop of mangel wurzel. If so large a quantity of this valuable vegetable has been raised by any one in this country, on an acre, it has escaped the notice of the committee. The largest amount that has been presented on any former occasion, was it is believed by Messrs. T. and H. Little, of Newbury, which fell a little short of 1000 bushels. It will be seen by Mr. Foster's well prepared statement, that *measuring* by cart loads, he had 1413 bushels,—that *weighing* by the cart load, and taking the standard weight of 56 lbs. the bushel, he had 1542 bushels, or 86,455 pounds, upwards of 43 net tons.—For this premium there has been no other claimant; but the committee hope and believe, that it is not hence to be inferred that our farmers do not generally raise more or less of the mangel wurzel. On the contrary they are led to think, that if as regards most of those vegetables for cattle, a half acre had been proposed instead of a whole one, there would have been numerous competitors. It may be thought advisable, another year, not to insist on an acre, and to have several premiums for the same article. Considering the length of our winters in this northern climate,—that our stock must be fed from the barn from the middle of November to the middle of May, six months,—how important and desirable is it that we should feed our cattle on something besides dry fodder—some food which is, at the same time, succulent and nutritious. No climate is better adapted than ours for mangel wurzel, sugar beets, (the most nutritious of the two, and about equally productive,) ruta baga, common turnips, carrots, parsnips, potatoes,—and of all these, cattle are very fond, and most, if not all of them, form the most wholesome and favorite food of sheep and swine. Consider the *value* of those crops, too, by the acre, compared with hay, and that any season good for hay will be good for them. Perhaps it may be truly said, that there is as little uncertainty of a good crop of corn and potatoes as of hay. From the claims exhibited in this report, it will be found that of mangel wurzel there has been produced 43 tons to the acre, of ruta baga 25, of potatoes nearly 18 tons. Of sugar beets, carrots and turnips, it is presumed the same quantities can be raised as of potatoes or ruta baga: of parsnips not so much; but this last vegetable is the sweetest of all. These are prodigious crops, such as may not, in common seasons, be generally or often realized; but supposing one half, or one third as much can be produced, what stronger inducement can be offered to every farmer to turn his attention to these things. On our farms, we rarely have more than a ton and a half or two tons of hay on an acre, and though it is not pretended that more labor is not wanted to raise vegetables than hay, and more manure and particular care, yet as a preparation of the ground for hay, and as forming a most grateful variety in the food of animals, and considering the prodigious difference in weight of crop, who can possibly doubt its being better to put a small portion of our grounds into this kind of culture? We have generally, it is believed, had the idea that much more labor and skill are necessary in cultivating mangel wurzel, sugar beets, and ruta baga, than for corn and potatoes. This notion is natural enough, because we have attended to the latter much more than the former. But we have, in this report, as we had in the report of the last year, the testimony of a practical and nice observer, Mr. Colman, who, in speaking this year of ruta baga, says—"the whole, from the sowing to the gathering, was not two thirds of the labor usually bestowed on planting, cultivating and gathering an acre of potatoes." E. H. Derby, Esq. a man of experience in these things, says, in 1825, that "cabbages, turnips, mangel wurzel, sugar beets, are all raised at as little expense as potatoes." If all this be true of potatoes, it certainly may with truth, be said of Indian corn. We have the opinion of Mr. Colman, which is worthy of notice, as to the *value* of ruta baga for fatting or for store cattle.

The following is an account of the culture and product of one acre of Mangel Wurzel raised by Gideon Foster, of Charlestown, in the County of Middlesex, Massachusetts.

The soil is a black loam with a clay bottom, inclining six degrees to the northeast. In 1829, three fourths of the same was planted with potatoes, with a moderate supply of manure in the hills, and yielded an ordinary crop; the residue was in mangel wurzel and grass. Early in the month of May of the present year, there was spread on said land about eight cords of compost manure, and ploughed to the depth of eight inches, and harrowed in the usual way. About the 12th of May, I sowed the seed in rows by hand, twenty-two inches apart. I thinned them from 8 to 12 inches apart in the rows, when they became the size of a goose quill. I should have preferred an earlier period for this part of the cultivation had it not been for the threatened destruction by the wire worms, which were then numerous. Nothing more was necessary in point of cultivation to perfect the crop, but to keep the soil loose about the roots, and the land clear of weeds, which was principally done with scuffling hoes, except frequent cropping of the under leaves, by which I obtained treble benefit. 1st, by obtaining an excellent food for swine and horned cattle; 2d, by admitting the sun and air to the roots; 3d, by removing them near to the crown, about the middle of September, which gave them time to heal, so that on harvesting they are found to be in a sound and healthy state for preserving them through the winter.

They were harvested in the third week of October. The roots were measured in a wagon body that held twenty-three bushels by accurate measurement. This measure was filled 61 times, and there were 10 bushels over. The wagon body was then placed on its wheels and twice filled (to the judgment of those of us present) as formerly, and weighed at the patent scales of D. Devens, Esq. of this town. The average weight of which was as per tickets annexed, 1415½ lbs. making 1433 bushels or 86,961 lbs. or 43 tons, 961 lbs.

It was observed by agriculturists who inspected the field, that much of its beauty consisted in the uniformity of the size of the roots, none of them being so large as have been raised by others, while very few of them were small. The largest that I have known to have been measured, being 25½ inches in circumference.

The actual expense of raising said crop, I estimate to be thirty-five dollars.

Gideon Foster.

Charlestown, Nov. 30, 1830.

RUTA BAGA.

Rev. Henry Colman, whose farm is in Lynn, Essex county, is entitled to the premium of $20 for his fine crop of ruta baga—741 bushels on an acre, weighing 68¾ lbs. a bushel, being about 25 tons and a half.

To the Committee of the Massachusetts Agricultural Society on Agricultural Experiments.

Gentlemen,—Accompanying this, you have the certificates of a crop of Ruta Baga, raised this year on my farm in Lynn. From these, it will appear that on an acre, measured by a sworn surveyor, on one side of the field, there were gathered 741 baskets full; and that forty baskets of the above named, weighed at the town scales, 2750 lbs. net weight. This, allowing 56 lbs. to a bushel, the standard weight assumed by the Society, would give a crop of 903 bushels to the acre.

The turnips were planted on the 29th of June and 2d of July; about one pound and a half of seed was used for the acre; and they were gathered and stored in cellars and in the barn in the last part of November.

The ground on which they grew is a good soil, neither wet nor dry, and bore the last year an abundant crop of onions, and corn the year preceding the last. It was well manured at both times and in fine tilth. It was manured with at least six cords to the acre of barn manure the last spring and sowed again to onions; but the seed entirely failing, it was ploughed, harrowed, furrows struck out, and about eight cords of barn manure spread in the furrows; ploughed again so as by a back furrow to form a ridge over the manure, and the seed sown with a small drill harrow on the ridges, making the rows about twenty inches asunder. As soon as the plants were of sufficient size, a drill harrow, with small shares fixed to it, to cut off all the weeds was passed through the rows; and the plants thinned with a small weeding hoe to the distance of about eight inches apart, and the vacant places filled up by transplanting from the supernumerary plants. They were once more harrowed and cleaned, which was a very small labor; and owing to the very unpropitious weather, were not harvested until very late. Some of them were very large; one weighed 15 lbs. and many were nearly as large. The exact expense of cultivating the acre cannot be estimated, as it was intermixed with other farm work; but the whole from the sowing to the gathering, was not two thirds of the labor usually bestowed on planting, cultivating, and gathering an acre of potatoes.

My Swedish turnips the last year, of which I raised considerable quantities, were fed off to my oxen, dry cows, young stock, and fatting sheep. To the cattle they were of very great advantage; and for feeding sheep, they proved the last year, by an accurate account, worth from ten to twelve and a half cents per bushel. The man who has the care of my stock considers them as among the most profitable feed which can be given either to fatting or to store cattle. Three year's experiment has increased their value very much for these purposes in my own estimation. I am, gentlemen, very respectfully yours,

Salem, Dec. 1*st*, 1830. Henry Colman.

The committee are sorry that, after so fine a year, no one should have preferred a claim for the premium on carrots, or sugar beets, or parsnips, or even turnips. A better season for raising them rarely if ever occurs. As to English turnips, the culture of them is so common and easy, and they have proved so fine this year, it is really surprising, that no claim should have been presented. Can it be because they have not been raised by many in sufficient quantity to gain the premium, or is it not rather that our worthy farmers have neglected to make application? Whatever may be urged as to their not being in the habit of attending to mangel wurzel, &c., it cannot be said of turnips, which have been cultivated always to a greater or less extent, by almost every farmer.

ONIONS.

The committee award the premium of 20 dollars to Mr. Jos. Perkins, of Newbury, for his crop of onions. The product, by estimate, was 657 bushels on an acre. Mr. Perkins has supposed 52¼ lbs. to the bushel. No standard weight is given by the society, but the committee believe 50 lbs. to be about the average weight of a bushel.

To the Trustees of the Massachusetts Agricultural Society.

Gentlemen,—In conformity to the rules and regulations of your society, I send you a statement of the amount, together with the manner of culture, &c. of one acre of onions, the growth of 1830. The quality of the soil is a yellow loam, and has been cultivated with onions several years. In 1829, it was sown as usual with onions, without any dressing, and produced between 400 and 500 bushels. The 2d of December last, after the crop was off, there were three and a half cords of barn manure ploughed in, in ridges.—The 21st and 22d of April following, the land was ploughed and harrowed, and two and a half pounds of seed was sown in drills about fourteen inches apart. The first hoeing and weeding was done June 11th, which cost five days' labor. The 2d was July 2d, four days more; the last weeding was done the 22d, which cost four do. They were harvested early in October, and between 9,000 and 10,000 bunches have been bunched; which, estimating 15 bunches to the bushel, (each bunch weighing 3½ lbs. is a fair calculation,) together with those that have been topped and sold by the bushel, there were 657 bushels.

Joseph Perkins.

Newbury, Nov. 12th, 1830.

No claims have been sent in for the best crop of Indian corn,—for the greatest quantity of vegetables raised for consumption on the farm of the claimant,—for the greatest quantity on one acre of millet, of common beets, cabbages, dry peas, dry beans, mustard seed, flax and hemp.

HORTICULTURE.

(From the New England Farmer.)

An Account of the Proceedings of the Massachusetts Horticultural Society, at a meeting held at the Hall of the Institution, on the 19th of March, 1831.

Report made by H. A. S. Dearborn, President of the Society.

Since the last regular meeting of the Society, the diplomas have been completed, and transmitted to the honorary, corresponding and subscribing members. Communications have been made to the officers of the Horticultural Societies in the United States, England, Scotland and France, on subjects relating to rural economy, and for the purpose of obtaining intelligence in many of the departments of gardening, as well as some specimens or seeds of such new, interesting and valuable varieties of fruits, and plants as may be successfully cultivated in this climate.

Several additions have been made to the library and among them is the New Du Hamel,—a magnificent work in 76 folio Livraisons, containing superb colored plates, of all the varieties of fruits, cultivated in France.

Among the numerous letters which have been received are the following, which merit the special attention of the Society.

1. A letter from S. P. Hildreth, Esq. of Ohio, accompanied by a package of seeds and drawings.

Marietta, Ohio, Feb. 28, 1831.

To Gen. H. A. S. Dearborn,
President of the Mass. Hort. Society.

My Dear Sir,—I have the satisfaction of announcing to you, that I have this day completed the packing of a box of seeds, cuttings, &c. and forward the same to the care of Messrs. Landreths, No. 85 Chestnut street, Philadelphia. The box contains 50 small packages of seeds, mostly of our native ornamental forest trees, shrubs, creepers, and annual and perennial flowering plants—cuttings of thirteen new varieties of seedling apples, collected from the orchards in this county, one seedling pear, four seedling peaches, and native plum, grape, gooseberry, and crab apple; cuttings from the large native plum at Granville, Ohio, I could not obtain in season, but have sent some of the stones of the fruit, which will doubtless produce the same; also stones from 12 of our best varieties of peaches, some of them very fine. This climate is favorable to the growth of the peach, and seed from a milder region, would probably flourish better in New England, than grown in a climate rather too cold for the peach tree. Accompanying the cuttings, are drawings of ten of the apples, taken last autumn by Mr. Bosworth, who has succeeded in giving very perfect and accurate likenesses of the several kinds; also a piece, representing a basket of Ohio fruit, intended to decorate the hall of the Society, should they deem it worthy so distinguished a privilege. In the box is a catalogue of all the articles forwarded, with descriptions of the new varieties of apples. They are as yet without names excepting three or four kinds, which are noted in the list; the Society will therefore furnish them with such names as they may think most proper. I believe on cultivation, you will find all but two or three of the thirteen, deserving a place among your best fruits. That we should be able to furnish so many new and good varieties of the apple is not so surprising when it is considered that numerous orchards of the very best apples found in the middle and eastern states, were planted and engrafted from 30 to 40 years since; and that the seeds of these superior apples have been generally used in planting out nurseries from that day to this. The fruit of Washington county has for many years been noted for its superior excellence in New Orleans and the towns on the Ohio and Mississippi rivers. Thousands of barrels are annually sent down the river by the farmers of this county, where they bring from two to four dollars a barrel. The winter with us has been one of unusual severity; but I do not discover as yet any injury done to the fruit buds by the cold. The lowest temperature was five below zero, of Fahrenheit, the 22d December. It has been for several days in February at zero early in the morning; but we now have mild weather, the rivers open for navigation, and the temperature on the 26th at 66° in the middle of the day.

Wishing you continued health, and renewed pleasure in your horticultural pursuits, when spring shall again revive the sleeping plants, I remain your friend,

S. P. Hildreth.

2. A letter from Doct. David Hosack of New York, with a donation of books.

New York, Feb. 8, 1831.

Dear Sir,—I had the honor of receiving the diploma conferred by the Massachusetts Horticultural Society over which you preside.

I duly appreciate the favor, and will gladly do all in my power to merit the distinction it conveys. With the exception of the general principles of agriculture, the nature of soils, the operation of manure, as connected with my early botanical pursuits, I am yet but a tyro in practical horticulture, to which I am now about to devote my attention. Should any thing offer in this new field of inquiry, that may appear worthy of communication to your Society, I shall not be unmindful of the duty which their kindness has imposed. I beg, too, to say that it will afford me the highest gratification to see you or any of the members of the Society at my residence at Hyde Park, on the Hudson, which I am now cultivating with the view to the great objects of our favorite pursuits.

By the earliest opportunity I will have the pleasure of forwarding to the Society a few volumes of which I beg their acceptance.

I am, dear sir, with sentiments of great respect, your humble servant,

David Hosack.

H. A. S. Dearborn, Esq.
Pres. of the Mass. Hort. Soc.

3. A letter from John S. Skinner, Esq. of Baltimore, accompanied by a package of seeds, from Western America, with a letter from the adventurous J. S. Smith, Esq. of St. Louis, containing a description of the plants from which the seeds were obtained.

Baltimore Post Office, Feb. 21, 1831.

Sir,—If I have been slow to acknowledge it, permit me to assure you that I am not the less pround of the honor you announced to me of my having been elected an honorary member of the Massachusetts Horticultural Society.—But the pleasure of being thus associated, even by name, with gentlemen of science and efficient patriotism is accompanied by an unfeigned consciousness of my inability to make any adequate return to the Society.

The only contribution I have now to offer consists of seeds of hitherto uncultivated plants, recently received from regions far west, which may afford valuable additions to the horticultural products of Massachusetts, if by careful efforts they can be gradually accommodated to your so much more eastern climate. I leave to the better judgment of the Society to say how far the prospect of success may warrant the trouble of experiment; and only beg leave to add that whatever may be the value of the result, it is to Mr. Smith, who made the collection, and whose description accompanies this, that will be due the thanks of the Society; while a high appreciation of its objects, and a readiness to co-operate most cordially for their attainment in my humble way, are the only claims that can be offered for its consideration by,

Your most obedient servant,

J. S. Skinner.

[Here follows the letter from J. S. Smith, published in the Farmer, vol. 12, page 398.]

The following resolutions were adopted:

1. *Resolved*, That the thanks of the Society be presented to Doct. David Hosack for his valuable donation of books.

2. *Resolved*, That the thanks of the Society be presented to John S. Skinner, Esq. of Baltimore, for the very acceptable present of seeds, obtained in the regions near the sources of the Missouri, and west of the Rocky mountains.

3. *Resolved*, That the secretary be directed to transmit copies of the foregoing resolutions to the gentlemen therein named.

As it is desirable that the rare varieties of foreign and native fruits should be speedily and extensively cultivated, it is suggested, that collections of scions should be made, and placed in charge of the Executive Committee, for distribution, at some future meeting; and that notice be given, in the New England Farmer, of the kinds, and the time when they will be offered to the members of the Society.

It is deemed expedient that the committee on fruits, vegetables and flowers, announce, in the New England Farmer, when the exhibitions of those products will commence, at the hall of the Society.

Respectfully submitted, by

H. A. S. Dearborn,
Pres. Mass. Hort. Soc.

Boston, March 19, 1831.

The seeds presented by Mr. Skinner were ordered to be distributed by lot to subscribers, (along with others that may arrive) on Saturday next, the 26th inst., at 12 o'clock.

The meeting was then adjourned to 10 o'clock the 26th inst.

[The following is the letter to Mr. Skinner from the Secretary.]

Hall of the Massachusetts Horticultural Society,
Boston, March 24th, 1831.

Sir,—I have been directed to inform you, that the valuable seeds which you were so kind as to present to the Massachusetts Horticultural Society have been received; and at a meeting held on the 19th inst. it was unanimously resolved, that the thanks of the Society be presented to you, for this generous expression of the favorable opinion you entertain for an institution, whose prosperity, in a great measure, depends upon like munificent acts of individual patronage, and the encouragement afforded by the general approbation of the public.

Very respectfully, your most obedient servant,
Robert L. Emmons, *Rec. Sec.*

(From the New York Farmer.)

[The letter which follows was sent to, and read before the Horticultural Society of Albany, and by a unanimous vote resolved to be sent to the New York Farmer for publication. We have only time to say, that its perusal has added to our enthusiasm in the cause in which we are engaged.—*Ed. N. Y. F.*]

Horticultural Societies. Letter from Alexander Walsh *to* James G. Tracy, *Corresponding Secretary of the Albany County Horticultural Society.*

Lansingburg, November, 1830.

Dear Sir,—I was informed some time since, that the Horticultural Society of Albany had placed my name among those constituting its committee of correspondence. An earlier acknowledgment of the honor thus conferred upon me was due to the Society, and would have been tendered, were I not compelled to yield precedence to other concerns less valuable in my view, but to defer which I was not at liberty. The pride excited in me on the occasion of the notice taken of me by the Society would have been still higher than it is, were I not sensible that the little merit to which I can lay claim has been overrated.

I avail myself of a temporary relaxation from my usual avocation to indulge in observations on a subject, which although not connected with my regular or ordinary pursuits, is yet held by me in high regard. The knowledge acquired by individual horticulturists in this state, is undoubtedly considerable. There is, however, wanting a combination of action, and correspondence of sentiment, so essentially necessary to general intelligence and utility. It is not only the highly cultivated mind that can bestow interest on the subject; we are all labourers in the great garden in which wisdom more than human has placed us; the humblest digger in it may possibly add something, although but a mite, towards the maturing of nature's plan, the perfection of a science indispensable to human happiness, so supereminent that professions claiming superiority, are, in many respects dependent on it. The healing art owes no small share of its power to the laborious research of the botanist: the gardener and farmer are the pioneers of the mineralist: the sacred desk finds, in the reflections that arise from the cultivation of the earth, materials to enforce and elucidate the sacred truths. Its minister, raising his eyes to the starry heavens, invokes the attention of his audience to the myriads of worlds suspended in ether, as evidences of the existence of that omnipotent power, whose invisible hand directs them in their course; but, as if this were insufficient to produce conviction, or too far removed from human view, the preacher turns his eyes from heaven's high place, lowers them until they fall on the planet we inhabit, where man, the lord of all that moves thereon, partaking even of a portion of divinity, stands and moves erect, the image of his God.

The portion of knowledge conferred on the brute creation, as necessary to their support, was given at once, and admits of no improvement. The house of the beaver has undergone no change in its architecture—it is now as at first, unchanged in shape, size, or convenience. Man alone has the capacity to improve and to alter every thing, so as to suit every change and purpose. The capability to improve is, then, worthy of man's special regard, and is more particularly the concern of those engaged in the raising of plants, and the sowing of seeds; for these pursuits are not only the most natural, but also the most necessary.

Our country is comparatively new; its resources and capabilities but imperfectly explored or unknown; even the immediate tiller of the soil knows not the wealth that its surface produces, or is capable to sustain. For this there is a remedy within our reach, and it is worthy of the citizen and the philanthropist to apply it.

It will not derogate from us as a nation, to take lessons from other countries, where there is aught worthy of our imitation or adoption with which we are unacquainted, or which we have not practised; it will do us honor if we come up to them in skill; it would be still more to our honor, should we outstrip them by our improvements.

The Horticultural Society of London is a remarkable instance of industry and intelligence. The British people, on other occasions sufficiently tenacious of personal rank and distinctions, have on this submitted to the equality which nature recognizes; rank, wealth, and talent, the lord, the mechanic, and the laborer, unitedly, constitute more than 3000 members. By their members and agents, almost every portion of the globe contributes to increase the stock of plants and seeds; these are cultivated in the grounds of the Society, and distributed throughout the island and the colonies, and with an honorable liberality, sent into various foreign nations, our own partaking of this noble generosity. While we should be grateful for such and all similar kindness, it is sufficiently evident that the benefit to be thus derived must continue too limited for our wants, and too slow in its progress. We must set ourselves to work at home, if we would arrive at any extensive degree of usefulness.

The cultivation of indigenous plants deserves a first place in the consideration of every people. The principle applies forcibly to our country, where owing to its great extent, variety of clime, and general fertility, the diversity of products is so extensive. The great facility of communication daily on the increase, removes every difficulty that nature would oppose to the transmission of plants, flowers, and seeds to any of our Horticultural Societies, where a scientific examination of their quality, or a practical experiment on their growth and produce, could best decide on their value, and the propriety of recommending their general cultivation. This should not, however, be acted on to the exclusion of exotics, few of which of any country would not find a congenial soil and climate in the United States. No country has an opportunity equal to ours, for collecting valuable exotics at so cheap a rate; our commerce is co-extensive with every sea; our merchants are intelligent and enterprising, that no port or haven is left unvisited by their ships.

What multitudes of sources have we to transplant to our country whatever is valuable in other climes? Every merchant should be united to our associations, every commander of a sea vessel, whether national or private, and be an actual or an honorary member of our societies; through them, in a few years, could be collected such a variety of exotic plants, vegetables, flowers, fruit, and seeds, as no one nation has ever owned; and that no nation but ours is capable of collecting and naturalizing. Horticulture and botany should in some degree enter into the education of children in all our primary schools; where practicable, small allotments of land should be attached, that boys might have practical illustrations of the theory. By parceling the ground among the young students, and holding out premiums for superior cultivation and produce, a most useful rivalry might be excited. One or two hours thus daily occupied would soon tend to the promotion and preservation of health, and usefully relieve the tedium of unvarying application to letters.

Every college and extensive seminary should have its professorship of agriculture, horticulture and botany, with its garden for practical illustrations and experiments.

County societies should be established, with funds and land to pay lecturers and employ laborers. A Horticultural Society has been organised in our county, from which it is expected great benefit will result.—The anniversary of this association is fixed for the 10th of September; it would be of much importance if the annual festivities of the societies in this state, would be at such different periods that delegates might have an opportunity of attending:—say, New York the 1st, Newburgh the 5th, Albany the 7th, and Rensselaer on the 10th of September; in this way extending the Hortolean wreath to our new formed branch, and at once add it to Flora's garland. The rapid facilities of our river communication will afford us pleasing opportunities for these civilities, and the trifling remove from our river to the *great canal,* will not damp horticultural zeal to prevent a trip to our sister society of the western district.

Among our periodical literature we have the New York Farmer and Horticultural Repository, the New England Farmer and Horticultural Journal, the American Farmer, the Southern Agriculturist, and the Wester Tiller;[*] all of which are doing much towards increasing a taste for the cultivation of the soil, but their circulation is too limited, and measures should be taken to have them better known: our Horticultural and Agricultural Societies ought to pay part of their premiums in these valuable publications.

To complete the great scheme of improvement, an annual convention, to consist of county delegates, should be held alternately in each of the four great districts of our state; it would be in the power of such an assembly to provide for a state school, where horticulture in all its departments, would be taught theoretically and practically.

Out of such a system a taste for the useful and the ornamental would gradually grow, until not only the gardener and farmer, the professional florist and the nurseryman, but even those, who, like the writer of this, are engaged in different pursuits, would become from choice, or, perhaps, because it was the fashion, gardeners and botanists; until every dwelling would have its garden, its parterre, and its nursery, until our country would present but one grand scene of all that would be agreeable to the taste, or fascinating to the eye.

In my circumscribed sphere, I shall not fail to contribute to so happy a result.

Yours, very respectfully,
Alexander Walsh.

Mr. James G. Tracy,
Cor. Sec. Albany Hort. Society.

On the visible Cause and easy and effectual Cure of the bad setting of some sorts of Grapes. By Mr. James Craig, Gardener to G. Cholmely, Esq., Howsham, York.

Sir,—I dare say it is well known to you that a great many of those vines which "have blossomed but brought no fruit" have have been hewn down as cumberers of the ground, and probably many more have been condemned before they were fairly tried; and if such there are, I trust that what I am about to state will be the means of saving them from the fatal axe. I have at this place a vine under my care, which is a very bad setter; it is an old plant, growing in a double-pitted pine stove. Previously to my coming here it had been condemned for an apparently good reason, which was, that it never had brought to perfection more than about a dozen berries on a bunch; the residue were about the size of peas. I was informed of its faults, but nevertheless respited it, and have been amply rewarded for my clemency. It ripened last year, a very fine crop, the bunches from

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[*] Since the above was written, the Genesee Farmer has been commenced at Rochester.—Ed.

1 lb. to 3 lbs. well filled with berries, considerably larger than those of the white Tokay. I am not certain of its name as I never saw the sort before; nor could any gentleman or gardener who saw it tell me what it was; but three good practical gardeners, to whom I sent single berries, informed me it was the Palestine. Be it what it may, it is an excellent grape, of good flavor, and one of the best of keepers: the fruit was ripe in July, and I cut the last bunch in Christmas week. The berries are of a dark red color, and of an oval form.

I presume that the following observations and treatment of this vine will be equally applicable to many other bad-setting sorts:—

On close inspection, when the blossoms are fully expanded, it will be obvious to every observer who is acquainted with the parts of the fructification, that the main cause of their abortiveness is a defect in the filament, and not in the anther, as supposed by many. It will be found that the filaments were very small and recurved, so as to render it almost impossible for the anthers to come in contact with the stigma of the same blossom, and I am persuaded there is a sufficient quantity of pollen on the anther for the fecundation of the stigma; but so awkwardly is the anther situated, that in a very few instances can the pollen perform its functions on the stigma without the assistance of art. The evil may certainly be remedied in a great measure by suspending over its racemens those of any free-setting sort, when the flowers of both are fully open; or by intermixing with its branches the branches of any free-setting sort that may be expected to flower at the same time: but in many cases neither of these methods would be convenient, nor do I consider them at all necessary.

About half of the bunches I impregnated with the pollen taken from the bunches of other sorts in flower at the same time, collected with a soft camel hair pencil, in the following manner:—I took a sheet of white paper, and held it under the branches from which I intended to gather the pollen (selecting those which were fullest in flower,) and then applied the pencil gently to various parts of them; and when the pencil was charged with yellow powder, I took it to the bunches which I wished to fecundate, and touched lightly with the pencil the female parts of the flowers, holding the paper as when gathering the pollen; and what dust fell into the paper I took up in the pencil, and applied it as before. These did as well as I could wish. All that remained, (except two bunches) I impregnated with their own pollen, by working the pencil carefully among the flowers, and by that means dispersing part of the fecundating dust, and collecting part of it upon the pencil. Of course, by this process, the pencil comes as often in contact wit the female as with the male part of the flower; consequently, the fecundation is accomplished by the pollen which is already on the pencil adhering to the stigma while more is collected. By the first of those methods I had rather more berries set than I had by the latter; but I had a great many berries to thin out of all the bunches, except the two which I left unassisted, and which set their berries in the usual way, almost all of them about the size of peas, and without seed. I kept as dry an atmosphere as I conveniently could, from 65 to 82 degrees of heat, in order to absorb a superfluous moisture which collected on the stigma. The operation was generally performed about noon, when the bunches were dry. It is necessary that the operation should be performed every day while the trees are in flower (which will be about a week,) as some parts of the bunches are only in flower when the others are set.—*London Magazine.*

Management of the Hautbois Strawberry.

The best way I have been able to discover to insure a good crop (as far as cultivation is concerned) is as follows:—In the spring, as soon as the plants are in flower, mark out a piece of ground about two yards square, as that will, with care produce plants enough for extensive plantations; this must be done by cutting an alley between them and the other part of the bed, which must always be kept clear of runners, in order that they may not mix. This done look well over your plants, and pull up all the females; and when you have retained a sufficient number of males to occupy the ground, pull up all the others, as there are frequently plants which do not flower, and which if permitted to remain, would afterwards mix them. Now, let another piece be marked out for the females, pulling up all the males, and leaving none but such as have fruit or fruit blossoms on; out of these two pieces all future plantations are to be made in the following manner. About March, plant out in beds of three rows, each eighteen inches apart, and one foot from plant to plant in the rows or in the borders round the garden of the same width. Let the two outside rows be planted with females, and the middle one with males. The ground this year may be sown with seeds, or planted thinly; and the following year, (unless a very bad season) it will produce abundantly. They may either be continued a year or two longer, or planted every year from the two beds first marked out. I prefer the latter method, especially where ground is scarce, as the ground thus occupied may always be planted with something else, except the spring they are to bear fruit; whereas if the old beds remain they cannot be cropped at all, and require a great deal more time to manage than it will take to plant new ones.—*Loudon's Mag.*

SOWING PEAS.

It is a great error in those persons who sow the rows of tall growing peas close together. It is better in all those sorts which grow six or eight feet high, to have only one row, and then leave a bed ten or twelve feet wide for onions, carrots, or any other crops which do not grow tall.

The advantages which will be derived, are, that the peas will not be drawn up so much; be stronger; will flower much nearer the ground, and in wet weather can be more easily gathered without wetting you.

But instead of sowing peas in straight rows, if you will form the ground into circles of three feet diameter, with a space of two feet between each circle, in a row thirty feet long, you will have six circles of peas, each nine feet; in all fifty-four feet of peas, instead of thirty on the same extent of ground.

If you want more than one row of circles, leave a bed ten or twelve feet before you begin another.

For the very tall sorts, four feet circles will afford more room for the roots to grow in, and care must be taken, by applying some twigs or strings to prevent the circles from joining each other.—*Repos. of Arts.*

RURAL ECONOMY.

Mr. Smith: *Prospect Hill Farm, near Lancaster, Ohio.*

A periodical publication, such as yours, to put on record the facts that occur to the practical farmer in the course of his business, does tend to the improvement of agriculture, and is productive of general utility to mankind. It is therefore, to be hoped, that intelligent farmers will not let slip the opportunity of making observations on every subject relative to country affairs, and send you the result of their experience; that, by insertion in the American Farmer, they may not be lost to the public; and, by accumulating a number of facts, be the means of establishing a more perfect system of agriculture; for it is partly owing to husbandmen living in the country, at a distance from neighbours, that agriculture has not arrived at the same degree of perfection with the arts carried on in towns. Farmers, however, endeavour to remedy the inconvenience of their situation, by communicating freely to one another, their knowledge in rural affairs, whilst the wary inhabitant of the town endeavours to veil in mystery every process in his art, and transaction in his business; but the sphere of a practical farmer's communications must be confined to a very narrow circle; and for this, a publication such as yours, if farmers will come forward with their observations, must be attended with beneficial effects to society. Please insert in your paper the following valuable extracted information respecting those useful animals, the cow and sheep. Amicus Humani Generis.

COWS.

The time of gestation in cows is nine months, and more than ordinary care of them is requisite at that season, as by improper management they are liable to abortion. They should be put into the best pastures, and should not be milked for six weeks previous to the time of calving. They should not be suffered to leap fences or ditches, or to run hard. Cows are liable to sustain injury by careless milking, viz. by not milking them clean, or by letting them run too long without milking. It would be much more profitable to the dairy, and beneficial to the creature, in many instances, to milk them three times a day, than merely twice a day, particularly in long days, when pasturage is rich and plentiful. I have known the experiment tried with very great success. These animals are very prone to lick themselves, and this is the natural means which they use, to free their skins from various incumbrances. This is frequently productive of mischievous and even fatal consequences, particularly at the season of shedding their coats; for the hairs which they swallow, prove so much indigestible substance in the stomach, and intercept the process of a regular and uniform digestion. Another consequence is, the hairs passing into the intestines, are intercepted in their passage, which, remaining there, clothe themselves with a crustaceous matter, and in process of time harden and accumulate to formidable polipi. In this case, the creature is prevented from deriving the ordinary nourishment from its food, it is rendered sickly, kept poor and thin, and will not give the proper quantity of milk, and what it does give is very poor, and instead of its natural white appearance, has a bluish cast, and throws up very little cream. The best remedy for this evil, would be to curry the creature, in the same manner as horses, and surely their merits entitle them to equal attention. The use of the comb would prevent or allay an itching which the creature feels, and which induces the licking; it would sweep away the loose hairs, which incumber and discommode the skin, and render the animal uneasy; at the same time, it loosens the skin and promotes a more easy discharge of the coat. It would also sweep away the larvæ of insects which are deposited in the hair and skin, which sometimes prove a great annoyance to the creature. I have seen the experiment tried, and it was productive of most obvious benefits. The creatures were delighted with the operation, and would even look for it; they throve better, and the milk was more abundant and rich. The cow wants in udder what it has in neck, and the larger the dew-lap the smaller the quantity of milk.

SHEEP.

Sheep are subject to many diseases; numbers of which are occasioned by the eggs of insects, which are deposited in different parts of the animal. But it ought to be observed, that the insects do not attack the sheep until they become previously disordered; or, in other words, they never attack the sheep in a healthy state. Sheep become disordered in various ways: by being long exposed to damp weather, or to chilling blasts; or by long confinement to rich, juicy, and unripe pasture; or on low, wet grounds. The more elevated grounds in general, are the most healthy situations, and particularly so in wet seasons; a most grievous disease once made its appearance in a fine flock of sheep, and already many had fallen victims to its malignity. The flock was at pasture at the time, on a low and extended flat, where they had pastured several weeks, during the greater part of which time the season had been unusually damp and rainy. I advised the removal of the flock to a high and rocky spot of ground, and to be dry foddered; accordingly those that were able were driven, and the sickly were conveyed there in a wagon. A temporary shed was erected, and a number of bundles of straw thrown loose beneath it; some very dry, and old hay from the barn was also deposited there, on which the sheep began presently to regale themselves. The event exceeded all expectation, not one died after their arrival at this place; the sick presently began to recover, and in a few days the whole flock appeared in a fine healthy condition. Dry foddering has also been found highly beneficial to cows and horses, at such seasons. Change of pasturage from low to more elevated situations, has often been attended with the most salutary consequences, and the cattle have been known to recover, after the most dangerous disorders had made considerable inroads on their constitution.

LIMING LAND.

It will be generally acknowledged, that the most beneficial mode of liming land, is to give a sufficient dose at once, when the soil has been enriched by a quantity of dung, or has been recently refreshed by remaining several years in grass, which precludes the necessity of a repetition for a considerable number of years.

Methods of Preventing Wheat from being injured by the Smut.

The following ways of treating seed-wheat are gegerally known among the English farmers.

A complete wetting with urine, or with a strong pickle of salt and water, and a drying with quicklime, are a certain preventive.

Unless wheat is sown within an hour and a half after being wetted with urine, it ought immediately to be spread thin upon the floor of a granary till quite dry, otherwise the powers of vegetation may be destroyed. If this precaution of drying and spreading be taken, the grain may be preserved for several months in perfect safety.

A gentle kiln drying of wheat intended for seed, and driving it twice through the fanners, immediately on being taken off the kiln, will prevent smut. The fanners must be driven smartly, and none of the light grain used for seed.

MISCELLANEOUS.

CAROLINA; OR, THE PLANTER.

BY GEORGE OGILVIE.

How virgin nature's indicating hand,
Unerring marks the quality of land,
And, by each tree that forms her forests, proves
The soil so various as the varying groves;
Th' experienced Planter's labours, when he drains
The deep morass, or with strong mounds restrains
The tide-stem'd river, struggling hard to spread
His refluent stream beyond his narrow'd bed;
The arts that make the sterile desert yield
The plenteous harvest of the richer field;
Young nature's wild luxuriance that subdue,
Or her exhausted native powers renew.
Be such our rural muse's simple themes!
Nor such alone! A nobler duty claims
The bard's attention, who pretends t'impart
The various lessons of the Planter's art.

Humanity, mild pow'r! to thee belong
The Planter's study and the Poet's song!
Thy sacred laws our first of cares demand,
To ease the burthen of a master's hand.
May blighting dews, may frosts unseason'd spoil
The vernal promise of his richest soil!
May winds and rains combine to swell the wave
That whelms his harvest in a watery grave!
May angry heav'n avenging light'ning dart,
Thro' the foul channels of his tainted heart,
Who when his barns full teem with yellow grain,
Unpitying hears the joyless hind complain!
But may that heav'n to which thou ow'st thy birth,
Thou brightest, purest, denizen of earth,
Show'r every blessing on his honest toil
Whose soul exults to see his servants smile;
Who, when disease the ling'ring wretch consumes,
Forgets the master, and the friend assumes;
With kind endearment lulls the fever's rage,
Or smoothes the dying couch of faithful age!

Taught by experience, from their earliest years,
Useless to some, I doubt, my song appears.
Yet think how few the natives of the land!
What boundless fields for industry expand!
To those I sing who to their household gods,
Raise foreign altars in these new abodes.
Nor let experience to my lay refuse
The ear! Minerva listens to the muse!
Fancy's warm sketch with cooler sense improves,
Corrects the outline, and the glare removes.

If, from your sire, the glebe descends to you,
Where first your lungs th' elastic fluid drew;
That lov'd domain, where pure unmingled joy
Throng'd every hour, did every thought employ;
Where your fond parents clasp'd you to the breast,
Liv'd in your life, and in your smiles were blest.

Tho' now, perhaps, the never rested field
Forbears, at length, an hundred fold to yield,
Whilst distant groves invite your wand'ring sight,
Still, still remember where you first saw light!
Think whence your sire, your grandsire, haply glean'd
Those treasur'd heaps you now profusely spend!
Think the worn lands, like thriftless Timon, crave
One grateful mite of all the wealth they gave;
And will, as conscious of your grateful care,
Exert for you that vigour you repair!
From love of birth-place patriot virtues flow,
As from the *central point* the *radii* grow.

Smile not, unfeeling man, nor proudly say,
"Let children love inanimated clay!
"*What worth entails it on *this barren spot*,
"That once my parents *liv'd* where now *they rot?*
"That whilst they taught yon arbouring vine to spread,
"They fondly cry'd, 'Our son shall bless thy shade!
"Thy grapes' rich juice shall fill his temp'rate bowls,
"Whilst he drinks grateful requiems to our souls.'"

But led by ardent wish to augment your store,
Or if you wander from some distant shore,
Ty'd to no spot, by those fond links that bind
To scenes of infant joy; the rip'ning mind;
Nor are retarded in your search, by fear
Of aguish vapours and infever'd air;
Attentive listen to the instructive muse,
Whilst she describes the SITE you ought to choose.

Where some vast river rolls a gentle tide,
Rich valleys wide expand on either side;
There the tall Cypress rears his moss crown'd head,
There Tupilos their cumbrous branches spread,
Th' Iberian Oak aloft expands his boughs;
Beneath the wax producing Myrtle grows;
The Liriodendron,† waving high in air,
Shakes on each ample limb a whole parterre;
Where gorgeous blossoms lurk, to blush unseen,
Amidst the scollop'd leaves of vary'd green;
There thrives the fragrant Birch in silver'd rind;
There Poplars tremble to the breathing wind,
Amidst whose shade no hapless Philomel
Recounts to twinkling stars her fabled tale;
But *Mocking birds* bid sweeter notes of love,
Cheer the hush'd night, and charm the conscious grove.
There too the Ash and Maple love to grow;
Whilst reeds, and vines, and briars, fill all the space below:
And where the sandy heights embrace the vale,
The Great Magnolia wide perfumes the gale.
Where such the native growth, shall doubts remain,
That Phœbus warms a more prolific plain?
No! from the surface scarce more distant rise
Those trees, whose branches seem to prop the skies,
Than deep, beneath the black superior ground,
Rich loamy earth, and marly clay are found;
A fruitful compost, formed in lapse of time,
Of putrid shells, and plants, and settling slime.

Not Gange' nor Barampootar, issuing forth,
With all its waters, from the melting north,
On ruddier billows waft Tartarian slime,
To swell the harvests of a happier clime;
Nor mystic Nilus, big with Ethiop rains
A richer tribute brings to Egypt's plains,
Than to their vales, Savannah or Peedee,
As from their lofty springs they seek the sea:
*That river from its sable waters nam'd,
Or fair Santee for finny-tenants fam'd.

Yet not their borders, all alike can yield
The certain promise of the cultur'd field.

If far removed from Neptune's watery sway,
To whelming floods, or parching droughts a prey;
When melting snow, or quick descending rain,
Urge the swoln river o'er the seeded plain;
Or adverse winds the teeming clouds dispel,
Whilst vertic suns the scanty dews exhale.

Nor yet too near th' Atlantic surges move,
Whose salts unkind to vegetation prove;
But strive the happy golden mean to know,
From where recoiling tides forbear to flow,
To where the river's dulcet stream receives
A saline tincture from th' intruding waves.
There stop your search, and make the gen'rous soil
The prosperous scene of each succeeding toil!
But prosperous thrice the youth, an isle who finds,
Whose reedy shore some circling river binds!
Not cut with branching creeks, but smoothly plain
As the pellucid bosom of the main,
When the soft western breeze forgets to play,
And splendid dolphins chase their winged prey;
Except where, near its centre, clust'ring stand
Some gentle risings, form'd of drifted sand,
That seem, amid the fertile valley plac'd,
Like the first heavings of a virgin's breast.
Health and security those mounts insure;
From them the living water issues pure:
Whilst on their summits, spite of circling trees,
You taste the freshness of the noontide breeze;
And safe 'midst raging hurricanes remain,
Should foaming oceans whiten o'er the plain.

Such was the isle where the Santeean sage
From vigorous manhood wained to palsy'd age—
A sage unskill'd in proud scholastic lore,
But rich his mind in old traditioned store;
Nor sapience more his aged temples crown'd,
Than deeds of warfare made his youth renown'd.
He shone, descended from an hero train,
The brightest link of an illustrious chain.
Yet doom'd to live in a disastrous age,
When his lov'd country blaz'd with civil rage.
Oft he advis'd—but when did faction lend
An ear to wisdom, or the advising friend?
In action dauntless as in counsel wise,
Force to oppose with force the patriot tries.
No more his hatchet peaceful bonds restrain.
But as his counsel so his deeds are vain;
Till Europe's sons attack'd the weaken'd band;
And with promiscuous carnage strow'd the land;

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* Few things strike strangers more than the little attachment generally shewn by planters to the favourite residence of their ancestors, especially when informed that those who die in the country, are generally interred on their own estates, which are often sold immediately after the funeral, without any durable fence being erected to preserve the family burying ground from being rooted up by the hogs of the purchaser.

† Liriodendron—tulip tree.

* Black river.

Then every eye towards Euhannih turn'd,
Then every breast his slighted counsels mourn'd.

A pensive silence long the chief maintains,
As round him droop his country's thin remains.
He weeps—from all a cheerless murmur breaks,
That dies to silence as the hero speaks.

Pardon, ye men, ye warriors of Santee,
The groan ye hear, the starting tear ye see!
Five sons once fought victorious by my side;
Not mine alone, they were their country's pride!
For you they combated, for you they fell;
Your sons to latest times their deeds shall tell,
And rouse to emulation by their praise,
As at the martial feast loud songs they raise.
In early youth ye saw them yield their breath,
Smiling triumphant in a glorious death;
But saw no tear pollute their father's eyes,
Nor sigh unmanly in his bosom rise!

A daughter, too, who sooth'd the toil of wars,
Who stole the anguish from these gaping scars,
She also bled!—A childless parent's woe
Might have compell'd one silent tear to flow!
But can a Warrior feel domestic pain,
Who sees his nation bleed at every vein?

Count all the stars in heaven's blue vault that shine!
Once—more the warriors of the SANTEE line!
Count all the leaves on yonder oak that grow!
Once—more our youth who twang'd th' unerring bow!
But now, such numbers have resign'd their life,
In foreign warfare, or domestic strife,
That fewer bend the bow, the hatchet rear,
Than suns revolve within the circling year,
Whilst foes unnumber'd crowd our ravag'd fields,
And FLIGHT alone the hope of SAFETY yields.

Start not my friends!—Euhannih scorns to name
A deed unworthy of your ancient fame,
Yet bids you from these modern valleys fly,
And seek those mountains where our fathers lie.
For know, once *Ocean* stretch'd his wide command
O'er these rich swamps and banks of barren sand;
Far as the pigeon wings her rapid flight
From summer's early dawn to slow returning night,
To where the lofty mountain's rocky side,
In savage grandeur bended o'er the tide;
Till (from my Sire the wond'rous tale I drew,
Whose faithful ancestors have vouch'd it true)
The mighty Spirit who controls the winds;
Them sleeping rouses, or tempestuous binds,
War'd 'gainst the weaker spirit of the main,
That dared presumptuous to dispute his reign.

Three days the monarch of the gales allow'd
For every distant wind to waft his cloud,
Where equinoctial suns had wont to rise;
But now no rays transpierce the thick'ning skies;
And wond'ring mortals watch in vain, to pay
Their tribute to the fourth returning day.

The gloom portentous, Ocean daunted sees,
Trembles in each wave, and groans thro' all his seas.
At length their god commands his winds to blow,
With rage unchain'd against his watery foe—
Impatient of restraint with joy they hear,
Snatch the white surges, raise them high in air,
And dash against each cliff's projecting head,
The waters mingled with their sandy bed.
Oppos'd, the waters and the sand rebound,
But soon the heavier sand regains the ground,
And forms within the limits of the main,
Here wavy knolls and there th' inclining plain.

Full thrice three days uncheck'd the tempest rag'd,
And fierce the war of elements was wag'd.
Earth on his marble throne astonish'd quakes,
His woods fall prostrate and each mountain shakes;
The world's vast frame seems to the centre riven,
Tremendous thunders speak a crashing heaven;
Whilst darkness yields to livid flames, that rise
From yawning gulphs or flash from bursting skies.
Till HE, the pow'r whose laws supreme command
The winds, the waters, and the solid land,
Said "BE THERE PEACE!"—At once each wind subsides,
And Ocean smoothes his agitated tides;
But whilst he smoothes them, murmurs to behold
A new form'd land, where late his waters roll'd;
Which, envious still, thro' each succeeding age,
His waves have lash'd with disappointed rage;
Since, mix'd with shells and sand, they ever bore
Their added freightage to th' extending shore;
Whilst mountain streams their slimy tribute pay,
As o'er the trackless sands they devious stray;
And winds and birds wing'd seeds and berries bring
Whence trees and herbs in quick succession spring.
The Pine, whose branches sweeps our heroes' graves,
First o'er each higher ridge its verdure waves;
Next from its marshy bed the valley sees
The Birch and Myrtle emulating trees;
Nor long ere those of nobler growth arise,
Whose vigorous shoots bespeak their future size.
And now the savage tenants of the grove,
Far from the haunts of men securely rove;
Not long secure! The huntsman soon pursu'd
The well-known footsteps of the feline brood.

(To be continued.)

THE FARMER.

BALTIMORE, FRIDAY, APRIL 1, 1831.

CULTURE OF SILK.—We did not think it necessary to accompany the article from Mons. Bonafous, translated by Dr. Pascalis, on sowing mulberry seed broad cast, and mowing the young plants for feeding silkworms, which we published in a late number of the Farmer, with our dissent from the propriety of the practice, as we had so recently on a similar occasion stated our views upon the subject. Some of our friends, however, have expressed surprise at the omission, as it seemed an admission on our part of the elligibility of the process. The result of our experience is clearly against the mode, and we would suggest that, if it be tried by any one, it be upon a very small scale, as most likely a dead loss of the mulberry seed and labour will be the result. Our reasons for this conclusion are manifold. We have never yet seen mulberry seed that would vegetate sufficiently soon to get ahead of the weeds and grass, which must be kept out by hand weeding, and this in a field would be impracticable—it is sufficiently difficult in a small seed bed.—Four years ago we seeded an acre of ground in this way, having been misled by the same "beautifulness of theory," probably that suggested the plan to M. Bonafous. The result was, after several months of anxious care and no little labour, besides the expenditure of sixteen dollars for seed, a total loss—not a single plant was left unsmothered by the weeds. But even if we could obviate this difficulty, another equally formidable presents itself:—such food is unfit for silkworms; it is too succulent and cannot be used. Experience has taught us, what we might have learnt from the books, especially the Congress Manual, written by Dr. Mease, that it is unsafe, and, at all events, unprofitable, to feed young and succulent shoots and leaves to full grown worms. We have seen and felt the evil of such a practice, and would recommend all engaged in the silk culture to avoid it.

From the many letters approbatory of the present management of the American Farmer, which it has been our good fortune to receive, we have selected the following for publication. As this is a most important era in our affairs, we trust the very respectable writer of it will excuse the liberty we take in laying it before the public. We could have collected many equally flattering, from our files, but do not wish to occupy room, which some might think might be more usefully filled. We can only say, that no exertion shall be wanting on our part to merit a continuance of the favorable opinion of those who have thus far deemed us worthy of their patronage; and take this occasion to return our thanks to the writer of the following letter, as well as to those of others of similar import for the encouragement thus afforded us in the pursuit of our labours.

Wilmington, (N. C.) March 21, 1831.

MESSRS. I. IRVINE HITCHCOCK & CO:

Gentlemen,—I have now been a subscriber and constant reader of the American Farmer for eight years; having purchased the four first volumes when I subscribed for the fifth. As the best evidence of my approval of the work, I now enclose to you $5;—payment in advance for the 13th volume.

This, best of American newspapers, had been so long and so ably edited by the former proprietor, that his successor might justly fear he could not supply its readers with the rich harvest which had been previously furnished them. I confess, for one, I entertained my doubts: and it is with pleasure I now acknowledge those doubts are removed.

I have heard some complain, the Farmer had fallen off, and was not as interesting as it had been. It may be true some of the latter volumes may not be as valuable as the earlier ones. But let any candid reader, (who profits by his reading) ask himself, if he has ever failed to get the value of his year's subscription, from any five successive numbers of the work? And, shall the farmer of the present year, cease to grow wheat, when he can get $7 per barrel for flour, because he could formerly get $10? I trust the American farmers have more wisdom, and that this work will be patronised as long as it contains one-tenth the valuable matter of the 12th volume.

Yours, respectfully,
W. B. M.

It is written in the sacred book that there is a seed-time and a harvest. Our agricultural friends have reaped the crop of their last year's seeding, and gathered in the harvest of their labours. We, however, cannot say the same of ourselves. We have laboured hard in sowing the seed and in cultivating the crop, but our harvest has been scanty and delayed even to the seed-time of another year. We beg those of our friends who have forgotten us at the past and previous *harvest-homes,* to consider, that the crops we cultivate are *annual;* that, as they look for the annual harvest, so do we; and that it is as detrimental to our interest to wait two, three, or four years for the fruit of our labours, as it would be to theirs to have their harvest delayed the same length of time.

We are truly thankful to those who have paid their subscription to the Farmer promptly, and request such as are indebted to us for one or more years' subscription to favour us with the amount due.

SUGAR CANE.

MR. SMITH: *Darlington, C.H. (S.C.) March* 11, 1831.

Sir,—There is a gentleman in this neighborhood, who has succeeded beyond his expectation in raising the riband sugar cane. He planted about a quarter of an acre, but did not get up more than about 275 at first, but before he cut it in the fall he had considerably the rise of 3,000 cane, all of which would count from 15 to 22 joints matured. It was planted on light sandy land, manured with cotton seed. The same gentleman will plant perhaps one and a half or two acres this year; his large cane has kept well, but his rattoon cane, through some neglect, has suffered considerably from the severe cold weather.

I write you this, for no other reason than that I have seen it asserted by some one of your correspondents that it was impossible for cane to be raised beyond the 32d degree of north latitude.

I am, yours. with esteem,
JOHN E. MCCASKILL.

POETRY.—In this number we commence the publication of an old poem with which we have been favoured by Dr. Mease. The author was a Scotchman, who returned home during the revolutionary war, and had his property confiscated. We have no doubt our readers will consider this poem very interesting. We expect to complete the publication of it in three more numbers.

Besides this, we have an original poem of nearly the same length by Mr. Lorain, the celebrated writer on husbandry. This is not so polished and smooth as the poem of Ogilvie, alluded to above, but will be considered an addition to American pastorals.

TO CORRESPONDENTS.—The communications of *Cousin Tabitha, De Rustica,* and R. B. J. came to hand too late for the present number, but shall have a place in our next. The writer of De Rustica and R. B. J. will accept our thanks for their favours, and are solicited to continue them. *De Rustica* particularly, we hope, will continue the Essays thus commenced, as he proposes. We are well acquainted with his ability to do justice to any subject he may undertake to discuss, and hope the result of his long practical experience in agricultural affairs will not be withheld from the public.

EXCHANGE PAPERS.—Those Editors with whom we exchange, whose papers are at a less price than ours, are requested to copy the following advertisement such number of times (once a month if convenient) as they may deem equivalent to such difference. And we respectfully request *all* Editors to give the advertisement an insertion in their papers. For this favour we cannot promise to reciprocate in kind, as our advertising limits will not admit of it; but they will receive our most grateful thanks, and such service in return as we may have an opportunity to do them.

THE AMERICAN FARMER,

EDITED BY GIDEON B. SMITH,

Is published in Baltimore (Md.) by I. IRVINE HITCHCOCK & CO. *(successors of J. S. Skinner,) in weekly numbers of eight quarto pages, at Five Dollars per annum.*

The purpose of this periodical is to be a medium through which a great number of the most enlightened and scientific practical cultivators of the soil, residing in every section of the United States, communicate the results of their experience to each other, and to the public, and receive similar benefits from the best theoretical and practical writers of foreign countries, on every subject connected with husbandry in the broadest sense of the term.

Letters addressed to either the Editor or publishers, ordering the paper, (not less than one year) or making inquiry concerning it with a view to subscribing, will be thankfully received and promptly answered, and a number of the work sent to the enquirer as a specimen.

N. B. A few, (and only a very few) complete sets of the work, from its commencement in 1819, now 12 vols., half bound and lettered, may be had from the publishers for $5 per vol. The subscription price will also be paid by them for either of the volumes, 3, 7, or 9, delivered in good saleable order at the office.

Prices Current in New York, March 26.

Beeswax, yellow 22 a 23. *Cotton*. New Orleans .10 a .12; Upland, .8½ a .10½; Alabama, .8½ a 11¼ *Cotton Bagging*, Hemp, yd. 18 a 20; Flax 12½ a 16; *Flax*, American, 7 a 8.——*Flaxseed*, 7 bush. clean .—— a .—— *Flour*, N. York, bbl. 6.75 a 6 87; Canal 6.75 a 7.00; Balt. Hwd. st. 6.75 a 6.87—; Rh'd. city mills 7.00 a —— country, 6.68¾ a 6 75; Alexand'a, 6.75 a 6.87½; Fredericksburg 6.62½ a 6.68¾; Petersg 6.68¾ a 6.75; Rye Flour, 3.87½ a 4 00; Indian Meal, per bbl. 3.50 a 3 62½; per hhd. 16.50 a 17.00 *Grain*, Wheat, North, 1.46 a 1.50; Vir 1.40 a ——; Rye, North, 80 a 82; Corn, Yel. Nor. — a 75; Barley, 82 a —; Oats, South and North, .31 a .35; Peas, white, dry, 7 bu. 5. Beans, 7 bu. 7.00 a 8.00. *Provisions*, Beef, mess 8.50 a 9.12½; prime 5.50 a 6.25; cargo 4.50 a 5.00; Butter, N. York, 12½ a 16; shipping, 8 a 11; Lard, 8½. a .—; Pork, mess bbl. 13.00 a 14.25; prime 9.75 a 10.75.

MERCER POTATOES.

700 bushels of the celebrated Mercer Potato, possessing the advantage of getting ripe two weeks earlier than any other description, and a much greater yield, 500 bushels early blue, do. 300 bushels Mohawk blue, 1000 bushels early white, 200 Buffalo white, and also 200 bushels stock do. The above named potatoes were raised on the Penobscot river, in the state of Maine, now receiving in store, and for sale by

JONA. ROGERS,
April 1. *No.* 11 *Bowly's Wharf.*

AGRICULTURAL WAREHOUSE AND SEED STORE.

The subscriber would inform the public that he has the following articles in store for sale, all of the best materials, faithfully and well made, viz.

Gideon Davis' highly approved Patent Ploughs in all their variety—Davis' ploughs improved as more adapted to stiff soils. Bar Share and Coulter Ploughs improved. Substratum and Shovel Ploughs, Cultivators for Corn and Tobacco. His Patent Cylindrical Straw Cutters, superior to any other article of the kind in use, also Dutch Cutting Boxes, Wheat Fans, Threshing Machines, an assortment of Hoes, Shovels, and Spades, Hay and Manure Forks, Cast Steel Axes, Wove Wire, together with a variety of other implements of husbandry of the most approved kinds. Also a general assortment of the Messrs. Landreth's Garden Seeds, which are fresh, and of prime quality, Clover and other Grass Seeds. Fruit and ornamental Trees, Bulbus Roots, Flowers, &c. furnished to order. Likewise Peirson & Walker's superior Mule and Jenny Spindles. J. S. EASTMAN.

N. B. Plough castings kept constantly on hand to supply the place of those worn out, also all kinds of repairs done at short notice. J. S. E.

Extract from Mr. Hall's Letter to John S. Skinner.

"The straw cutter is here, and in operation, and a most *admirable machine it is*—the best I have ever seen in this or any other country. I am truly obliged to you for the selection of the machine, as well as to Mr. Eastman for his explanation of the mode of keeping it in order." CHAS. HENRY HALL, *New York.*

THE HIGH BRED IMPORTED IMPROVED DURHAM SHORT-HORNED BULL BOLIVAR

Will be at Franklin, on the Franklin Turnpike road, about four miles from Baltimore—during the months of January, February, March and April next.

At Epsom farm, near Towsontown, seven and a half miles from Baltimore, on the York Turnpike road, during the months of May, June, July, and August next; and at Franklin, in September, October, November and December.

Terms.—Five dollars, to be sent with each cow.

This Bull was selected by Mr. Coates, the keeper of the Herd Book, without limitation of cost, and was highly valued by Colonel Powel, who considered him in form, points, and pedigree, equal to any animal to be had in Great Britain.

Bolivar is red and white, was bred by J. Whitaker, Esq. England. The singular neatness of his shoulders, the straightness of his back, the width of his loin, the smallness of his head, neck, and offal, the quickness of his gait, together with the well known character of his family as dairy stock, render him one of the most desirable males for improving our neat cattle that can in any country be found.

The committee on Neat Cattle at the exhibition of the Pennsylvania Agricultural Society, reported as their opinion, that Bolivar was "*the handsomest and best Bull that has ever been exhibited at any of our shows.*"

Bolivar is at the Epsom Farm at present.

Dec. 17.

BALTIMORE PRICES CURRENT.

BALTIMORE MARKET.—There has been very little change in the prices of produce since our last. Flour remains as before. Sales of all kinds have been made at our quotations. The wagon price of Howard street, was $6.12½ yesterday. Generally the market may be considered dull, both holders and purchasers being inclined to wait the arrival of foreign news, expecting the next intelligence to have an important bearing upon bread stuffs. In other articles there is nothing remarkable.

TOBACCO.—Seconds, as in quality, 3.50 a 5.00; do. ground leaf, 5.00 a 9.00.—Crop, common, 4.00 a 4.50; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 10 00; yellow and red, 8.00 a 14.00; yellow, 14 00 a 16.00.—Fine yellow, 16.00 a 20.00.—Virginia, 4.00. a 5.00.—Rappahannock, 3.00 a 4.00——Kentucky, 4.00 a 8.00. The inspections of the week comprise 237 hhds. Md.; 29 hhds. Kentucky; 20 hhds. Va.; and 3 hhds. Ohio; total 289 hhds.

FLOUR—best white wheat family, $7.00 *a* 7.50—super. Howard-street 6.25 *a* 6.37½; city mills, 6.25 a —; Susquehanna, 6.25 *a* —; CORN MEAL, bbl. 2.25 GRAIN; red wheat, 1.20 *a* 1.25; white do. 1.25 *a* 1.30 CORN, white, 64 *a* 66—yellow 64 *a* 66—RYE, 60 *a* .63. OATS, .33 *a* 34. BEANS, 90 *a* 1.00-PEAS, 50 *a* 60—CLOVER SEED 5.00 *a* 5.50-TIMOTHY, 2.00 *a* 2¼—ORCHARD GRASS 1.50 *a* 1.75—Tall Meadow Oat Grass 2.75—Herd's, 75 *a* 1.00—Lucerne 30 *a* 37½ lb.—BARLEY, 62½—FLAXSEED 1.25 *a* 1.30—COTTON, Va. 9 *a* 9½—Louisiana 10½ *a* 12½—Alab. .9 *a* .11—Tenn. .9 *a* .10—N. Car. .9 *a* .10½—Upland 9½ *a* 11½—WHISKEY, hhds 1st p 28 *a* —; in bbls 30 *a* 31——WOOL, common, unwashed, lb. 15 *a* .16——washed, .18 *a* .20—crossed, .20 *a* .22—three-quarter, .28 *a* .30—full do. .30 *a* .35, accord'g to qual.—HEMP Russia, ton, $250 *a* -; Country, dew-rotted, 6½. *a* 7c. lb.- water-rotted, .7 *a* 8c.—FISH, Shad, Susquehanna, No. 1, bbl. — *a* —— do. trimmed, 7.00—North Carolina, No 1, 7.00—Herrings, Susquehanna No. 1, bbl. 3.12½ *a* 3.25—Mackerel, No. 1, 6.37½, *a* 6.50—No. 2, 5.50 *a* —— —No. 3 3.50 *a* 3.25; BACON, hams Balt. cured 10c.—Feathers, 33 *a* —-Plaster Paris, cargo price per ton, 4.25 *a* 4.37½, ground, 1.37½ *a* —-bbl.-Iron, gray pig for foundries per ton 30.00 *a* ——; high pig, for forges, per ton, 25.00 *a* 28.00; bar, Sus., per ton, 80.00 a 85.00.—Prime Beef on the hoof, 5.50 *a* 6.25—Oak wood, 3.00 *a* 3.25—Hickory, 4.50 *a* 4.75—Pine 2.00 *a* 2.25.

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EDITED BY GIDEON B. SMITH.

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AGRICULTURE.

BAKEWELL SHEEP AND DEVON CATTLE.

Mr. Smith: *Philadelphia, March* 29, 1831.

Permit me to make a few observations on the subject of Bakewell sheep and Devonshire cattle; if you think them worthy a place in your useful paper for the benefit of the public, you are at liberty to publish them. It has been frequently requested of me, verbally and also by letter, from various parts of the United States, to give my candid opinion which is the best sheep and cattle for the American farmer to turn his attention to. I have for a number of years past given the preference to Devon cattle and Bakewell sheep, and I have turned my attention to them in preference to all others; and I still am convinced they are decidedly the best breed in the United States. I have information from a large proportion of the best judges which I have become acquainted with, for the two last fall and winter seasons in the New York cattle market, in which I have spent about four months in each of the two last years, in making sales of fat cattle and Bakewell sheep to a large amount. When I say best judges, I mean the grazier, drover, farmer and butcher; most of them have come to the conclusion with myself, that they are the breeds which practical men ought to turn their attention to. The New York cattle market is supplied from most of the states in the Union; for instance, Ohio sends annually from 80 to 100 thousand dollars in fat cattle, Virginia a large quantity, Pennsylvania of itself in the four months which I attended, upwards of one hundred thousand dollars, and I should say upwards of double that amount annually. New York, New Jersey, Massachusetts, Vermont, and Rhode Island, their proportions; not uncommon to see on a market day upwards of fourteen hundred head of cattle of different breeds. This is the place for judgment and observation on the various kinds; you might stand on an elevated platform erected for the accommodation of the butchers and graziers, and view the different enclosures provided for the purpose of offering this large number of cattle for sale, and easily behold the beautiful dark red Devons, and point them out from all others; there is something peculiar in their colour. I have the breed from black cows, in fact nearly all colours, and the calves of half and three quarter blooded are generally red. I do not remember more than about four full-blooded ones in my time in this country being fattened for the market, but a vast number of halves, three-quarters, and seven eighths; the four I have reference to, the two fed by Mr. Hurlbut, Winchester, Connecticut, and I cannot answer for their being full blooded, my information respecting these two being derived from butchers and drovers. For further information reference might be had to your paper, No. 52, vol. 12th. I fatted a heifer four years ago, slaughtered in Philadelphia, admired for her beauty and fatness; also one fattened by Mr. Thompson of Baltimore, which excelled all for weight, agreeably to size and appearance when alive, exceeding the butcher's judgment in weight when slaughtered. Their good quality as milkers are highly spoken of; my own experience is not sufficient to state the quantity of milk they give at a milking. My full blood calves have always been suffered to run with the cows until they generally weaned themselves. But surely Mr. Hurlbut would not keep bad milkers to make an hundred and fifty thousand pounds of cheese annually for Baltimore market, as stated in your paper, March 11, No. 52, vol. 12. But I will state what Mr. Bloomfield, a gentleman of unquestionable veracity, said when on a visit to this country, and at my house in Delaware, about six years ago. He had been living under Mr. Coke, Devonshire, England. Being his principal man to oversee his cattle, he (Mr. B.) stated, for several weeks previous to his leaving England, he had made from twenty cows, 200 lbs. of butter per week—10 lbs. for each cow, and I feel assured they must give rich milk, for the calves are always remarkably fat. No better proof for their giving good milk. Mr. Caleb Churchman, residing near Philadelphia, a considerable drover of lean stock, has been purchasing from the farmers called the Holland Company settlers in the state of New York. He (Mr. C.) told me about two weeks ago, that Devon cattle had taken the lead in preference to every other breed in that country. I returned from New York on the 22nd inst., while there I was told by the most respectable butchers and drovers in that market, that the two steers of Mr. Hurlbut weighed, one 1528, the other 1438 pounds nett beef, and were allowed by all I conversed with, to be the best pair of oxen ever seen in that city, not only for their weight proportionably to their size, but a beautiful colour, small bone, and very fine, rich beef.

Thirty-seven of the forty-three Bakewell sheep I made mention of in your paper, No. 23, vol. 12, were slaughtered last week in New York, and allowed by good judges to be the best ever exhibited in that city. I sold them to Mr. John Perren for 12½ cents per lb., and the thirty-seven when dressed, weight, 4,045 lbs., total amount $505,62½, weighed in the presence of a number of respectable gentlemen. When it is considered that twenty-one of these sheep were but one year old past, fifteen but two years old past, with one of four years old this spring, you will be ready to say with me, that this breed of sheep, and the Devon cattle, are worthy the attention of the American grazier, breeders, and keepers of sheep, in preference to all others. The New York butchers will tell you they make the best lambs that come to that market. An objection has frequently been made, that "they make the mutton too fat;" this is remedied by killing them at early age. If the Bakewell can be made to excel the common sheep in weight at the age of one year, when you have to keep the common sheep four years to bring him to the same weight, surely the preference should he given to the Bakewell. Another good quality, they have always been considered to carry the greatest weight of flesh to a smaller proportion of bone than any other sheep in the world. I feel I shall be tedious with my subject on sheep and cattle at this time; but not seeing your paper of the 18th inst. till I had prepared the above to be forwarded to you, and feeling a desire to give a more minute statement of the several weights of my thirty-seven wethers for the information of our Chester county friends, and Mr. Fow of Philadelphia, their several weights are as follow:

1, 130*	11, 157*	21, 110*	31, 89
2, 113*	12, 106*	22, 116*	32, 107*
3, 132*	13, 107*	23, 116*	33, 99
4, 97	14, 108*	24, 100	34, 87
5, 120*	15, 103	25, 120*	35, 88
6, 126*	16, 88	26, 100	36, 89
7, 120*	17, 106*	27, 117*	37, 130*
8, 105*	18, 81	28, 95	
9, 98	19, 94	29, 138*	689
10, 132*	20, 92	30, 129*	
1,173	1,042	1,141	

Take the twenty-two largest weights marked thus,* and you will find the average of each sheep is upwards of 30 lbs. per quarter. It must also be considered they were killed on Wednesday morning, which was the case, and not weighed till the Friday afternoon following, all this time hanging in an open shed, with their plucks taken out, and heads off, exposed to a drying wind, which must have made the weight less, for each sheep at least from 2 to 4 lbs. than it would have been if they had been slaughtered, weighed the next and hung up in a cellar, which is the general method adopted in Philadelphia and Baltimore. Again you will see they were not weighed by half pounds, but by good weight given by the pound; you will be inclined to conclude with myself, had they been weighed by other standards they would have been made to weigh considerably more. But their weight is sufficient to excel all other lots of sheep of the same number on record in this country, being all raised from lambs and fatted by myself. It has been admitted by a number of English gentlemen acquainted with the feeding districts in England, they never saw a greater display of fine mutton exhibited at any one time; I might include all the butchers and drovers; they said they far excelled all others ever slaughtered in the city of New York. Mr. J. Perren, the gentleman who purchased them, was of the opinion they carried ten lbs. of wool each; if so, their skins were worth five dollars each. The weight of the loose fat I neglected to obtain; but one of their cauls was weighed at the time of their being taken out of the sheep, which weighed 20 lbs.; this was considered a great curiosity, exceeding all they had ever seen. The mode of feeding these sheep, was nothing more than common, running with others on good pasture during the summer, no grain given to them till taken to the sheep yard about the 1st of December: their food principally the ruta baga turnip, and good upland hay, with a small proportion of corn and oats per day. Yours, most truly,

John Barney.

ON PLOUGHING.

Mr. Smith: *North Carolina, March* 25, 1831.

I propose to offer a paper or two on this first and most important operation of Agriculture; and if my opinions and my manner of communicating them are tolerated, I may extend my remarks to some other particulars of this first and best of arts.

Before I speak of ploughing, it is necessary to premise that all planted crops should be in drills and not in hills, and all sown crops in beds, for reasons that will appear obvious in my manner of ploughing, and by some observations on planting that may perhaps follow. The fact is all that is now necessary to be understood

Of ploughs I will say but little. It is indispensable that they should be good, run deep, and be of a form to turn a furrow with the least possible resistance. The avoirdupois weight of a plough is a matter of little consequence, except that a heavy plough runs more steadily; for the difference of 10 or 15 pounds would not be perceptible to a team capable of carrying a thousand; but the deviation of an inch in the form of a mouldboard will affect the draught more than fifty or a hundred pounds.

Teams must be strong. The superficial scratching of a bad plough, and a weak team, can promise nothing favourable to the farmer. Room is not afforded for the crop roots to penetrate, nor is the earth loosened to suffer the moisture to rise, nor for the rains which fall to penetrate: either rain or drought in the smallest excess ruins the crop: it can only be worked in seasons exactly favourable, and the scratching farmer's cares and anxieties are only relieved by his land soon washing away. As that goes down the rivers, he goes over the mountains. Wherein consists the patriotism of a bad farmer? This sort of itinerant needs a new appellation.

Farmers often object that they cannot plough deep, as from the fewness of their horses they cannot afford to double their teams, that is, put two horses to a plough. I know from experience, that eight horses if doubled when breaking up, will tend as much land, and make a better crop than ten working singly. This apparent paradox, if not now obvious, will be solved in some future number if I find expedient to write it.

Land should never be flushed up or cross-ploughed *for any preparation*. It should be bedded for corn, wheat, and every other crop, and the water furrow of one crop should be the ridge of the next.

In reversing the beds begin in the water furrow. The deepest ploughing is thereby made deeper. The sides of the old beds are sliced off and thrown together to form new ones: with every repetition you can plough deeper and deeper, and soon arrive at a depth quite incredible to the skimmers.

Cross-ploughing is very deceptious. Superficially observed work seems to have been done, but in fact the ridges are merely scraped off to fill furrows. Deep ploughing is out of the question. Jethro Tull, in his book, (as I may quote perhaps hereafter,) condemns cross-ploughing for some particular reasons, that will deserve consideration. De Rustica.

(From the Southern Agriculturist.)

Observations on the Apathy which pervades the community of the Southern States, relating to the improvement of Agriculture. By a Rustic.

Columbia, January 10, 1831.

Dear Sir,—Although this is addressed to you, it is not intended for *your* benefit; for it is very evident, that you are sufficiently alive to the necessity of efforts being made in these southern states, for the improvement of their agriculture, to render such a paper of any use to *you*. Its object being the benefit of South Carolina and neighbouring states, I beg you will insert it in your extensively circulated periodical, for the public good, which it may produce, if attended to, and I do not mistake the correctness of the views it holds forth.

Notwithstanding the valuable communications which a few individuals occasionally send you for publication, it must be confessed that we are universally deficient in due and efficient exertions for the ameliorating of our condition, by extending knowledge, and affixing scientific basis to our agricultural pursuits. It would seem, by our apathy, in this respect, that agriculture was to us scarcely even a secondary consideration, a pursuit, the objects of which, ignorant men may be allowed to prosecute, as these are harmless and cannot affect society materially either in good or evil! Indeed, some who consider themselves the better class of society, appear to act as though the tilling of the soil was an abject and merely mechanical calling, nearly useless and only allowed to exist by sufferance. It might be thought an invidious retaliation in me, who belong to this tilling class of men, to point out the consequential airs of the cits, whether belonging to the counter or the various *bars*. We might acknowledge their undoubted superiority over us, by the greater, or indeed, the almost exclusive countenance they receive from legislative enactments. Do we not see, in fact, that ninety-nine hundreds of the laws passed, are for their benefit, and that poor agriculture is left to shift for itself, and never receives the protecting and encouraging help of government, so as to enable it to meet the other professions on an equal footing. I must have been much mistaken when I selected it as a pursuit calculated to produce benefits to the country. It is at all times, a hard task for a man to acknowledge his errors, and almost persuaded as I am of mine, in this case, I can scarcely bring myself to confess it. Still I allow that every circumstance demonstrates clearly that my choice was founded in error, since the collected wisdom of the country declare it so by their absolute neglect of the one, and its extreme watchfulness over the welfare of the others. In fact, are there not extensive and richly endowed institutions, with well paid professors, for the promotion of all useful knowledge, in divinity, law, commerce, and medicine? Surely, if agriculture was of any value in this country, as it is in some others, establishments for its promotion would have been formed, or at least, some professorship attached to some of the other institutions, intended to exalt this neglected object. What are the banking institutions, the officers, the fortifications, the light-houses, and the navy itself, but establishments for the protection of commerce? What are all the officers of the judicial department, with high salaries, but for the comfortable support of the incumbents, together with the promotion of the good they may do, perchance, to such of the community as, unfortunately for the greatest numbers of them, have dealings with them? It is admitted that despised agriculture is not excluded from a chance of the benefits that may accrue from these several favorite establishments; but there is not one, that I know of, supported by government for its encouragement. We have, it is true, some few agricultural societies throughout the state; but without the fostering hand of power, without funds, what can they do? Yet they do some good, about one hundreth part, probably, of what they might do. It must be, however, infatuation on the part of those persons who keep them up; for what has become of the United Agricultural Society of South Carolina? It has died of inanition, and if the existence of such societies had promised any advantage at all to the community, would it have been suffered to perish thus miserably, as it has, in the very arms of our assembled wisdom? Notwithstanding all these unanswerable proofs of the worthlessness of agriculture, my habitual and rustic obstinacy will not yield, and it continues refractory to the superior sense and polished reasonings of the followers of the more favored professions. You must not suppose, Mr. Editor, from all I have said, that I blame these valuable citizens here alluded to. No, they take care of themselves and of their concerns, and if they do not carry their views further, I exculpate them of any sinister intentions; and, indeed, it would seem strange that persons, who from their habits and pursuits, know little or nothing of the profession, the neglect of which I deprecate, should take a very active part in promoting its interests. Those most to be blamed, assuredly, are the very professors of the slighted art whose cause I would attempt to advocate. They are most undoubtedly those whose business and duty it is to procure for their profession the assistance it needs. What is it that keeps them so blind, I will not say, to their own interest; but, as I do not acknowledge myself convinced of the contrary, I must say, to the very best interests of their country? How I regret I have not the skill of those belonging to that profession whose chief business it is "to make the worse appear the better cause." I might then do what I think far more righteous, make the better cause really appear such. It might, perhaps, be shown with some appearance of reason, that a country without inhabitants, whatever be its capabilities, is a very poor one, even for the favored professions. The community might, perhaps, be made aware, that to this neglected agriculture they are indebted for every thing that renders civilized man superior to the savage. That not only their food, clothing, &c. &c. but their very existence as a people depend almost solely upon it. The great city of Charleston itself might perceive, to its utter astonishment, that without the country back of it, it would be only a miserable village of fishermen, and that as it is, almost its sole dependance for support and protection, at all times and under any circumstance, is to agriculture. And, pray sir, what do you think would be the effect of such a strange revolution in their knowledge and modes of thinking, if it could be operated? Do you suppose that they would again, in their exclusive wisdom, ship off to the north, hardy, honest cultivators of the soil coming from Europe to their *hospitable shores?* Would they not rather make great exertions to induce emigration from foreign lands to our almost deserted middle country? Would they not, instead of going to the north, to be made dupes of for their money, come up with some of those worthy foreigners to form establishments which may hereafter prove not only sources of profit to themselves individually, and to the revenue of their native State, but also be the very foundation on which their existence may rest. They would, of course, have learned that a hardy and industrious population of cultivators of the soil, are the very bone and sinew of a country like this, in peace or in war, the very blood of its existence. They would exert their utmost efforts to prevent the emigration of their citizens, and to promote emigration from abroad, obtain from government means of doing these things, without which the government itself, will, in time, vanish away. They would establish schools in which the most useful art of all, in my obstinate opinion, can be learned as well as others. They would not only form societies for the promotion of agricultural knowledge, but have them endowed liberally, without which their exertions can be only of small avail. They would establish experimental farms in which the culture of valuable foreign plants would be tested in various ways, and in different sections of the State. These experiments would be made by persons of skill. Many valuable plants and useful animals might be imported from distant countries and inured to our climate. Individuals, who, with the best possible intentions, are compelled to cease experiments for the want of means to prosecute them to successful issue, would thereby not only be saved from impending ruin, but incalculable advantages would be secured to the community by the successful result of experiments, the failure of which by an individual of slender fortune, was merely occasioned by the necessity of his attending to the objects of his immediate wants. Such a failure generally deters others from attempting the same thing. We should then have some right to complain, on very good grounds, that all the praises bestowed on our naval officers, consuls and ministers to distant countries, are only half deserved for bringing foreign plants, seeds, &c. to be naturalized in this;, for they have hitherto almost invariably bestowed to the North, those productions which cannot be cultivated there, except in hot-houses!! while the Southern States are scarcely ever thought of in the distribution, It has been for years past a source of vexation to reasonable men, to see such unreasonable dereliction of propriety. Several plants, which, but for this infatuation, might at the present time, be in extensive and profitable cultivation at the South, have been suffered to perish in the hot-houses, &c. at the North. There are also many plants which might prove sources of prosperity to posterity, and which therefore ought to be supplied from foreign parts at public expense; for they are such (at least some of them) which cannot benefit the individual who might import them, although they may become indispensable at a future day; and the expense of procuring them can be but comparatively trifling. As one of these, the cork-tree may be particularized, and the want of it, when the vine is extensively cultivated here, may be a serious obstacle to its further extension. An individual may import for curiosity, or the benefit of his country, a small number of them, a dozen or so; but thousands are wanted, and would undoubtedly grow luxuriantly in most parts of the Southern States, and add to its present ornament and future benefit. The same might be said of many other most valuable objects of culture; but it is needless to enumerate them here. I would not have you think, Mr. Editor, that I would advocate the benefiting one class of society at the expense of another. A State, like a family, can regulate its own concerns as it pleases; and the measures for increasing the population of a country, where it may be desirable, is surely an object of general interest for that particular country. The benefits arising from it, as also for its augmentation of individual as well as of public wealth, by the extension and improvement of its agriculture; the security thereby obtained of public tranquility, external as well as internal, are surely objects of such public concernment, that the government alone can and ought to promote.

Is it not true, that for one family that removes to this State from abroad, at least fifty remove from it? Why is it so? Let me not be told that the richer lands of the West attract *unavoidably* our population. When agricultural men are comfortably situated, carrying on their operations with proper industry and suitable knowledge, they are too happy to wish for a change, the advantages of which are, at least, doubtful. Our soils are good, so is our climate. Our lands are cheap, and easily obtained for the settlement of numerous families; why then go elsewhere, to encounter, most probably, an unhealthy climate? Where is the patriotism of those who say, "it cannot be helped," when the smallest exertion to prevent it has never been made? Where is their *amor patriæ,* the love of the very soil that witnessed their birth, and the sports of their infancy; their love of their children and their posterity, when they suffer things to go on thus to certain destruction, without taking one step to avert the impending calamity? Whence will you draw your power to suppress insurrection at home and oppose aggression from abroad, when you will have suffered, by your own indolence and apathy, your own strength to be thus dispersed and wasted away? These are solemn questions, which every one may answer to himself as he best can; but at the same time it is the duty of all to act seriously, and put a stop to the destructive process going on under the protection of our negligence and blindness.

Rouse your energies, you men of the soil; claim your share of the expenditures of your government, whose coffers are filled from the proceeds of your labors, have your profession placed on a footing of true respectability, by placing it on the road that leads to perfection, and thereby save your country. Or go on as you have hitherto done, and your loss of freedom and independence is at hand.

It is passing strange, that, with inferior means, proceeding from soils and climates, our Northern neighbors are far exceeding us in the successful cultivation of those things for which we are so eminently situated! They are entering largely on the culture of the vine and the silk-worm; they have extensive flocks of sheep; they raise a superabundance of bread, meat, horses and mules, for their own use, and with the surplus of them they drain our purses. All these we might raise, at least, as far as our consumption may render it necessary, and some of the articles, such as wines, silks, olive-oil, wool, &c. might be, before long, most profitable objects of exports.

That time is past, when we might have rested satisfied with two or three principal staple objects of exports, without aiming at an increase, either of them, or of our population. The world is progressing rapidly in industry and knowledge, we must not remain behind, and this we shall surely do, unless we make now the most vigorous efforts to regain our proper rank. See how power is accumulating in other parts of these United States by means most undoubtedly within our reach, if we will but avail ourselves of a part of our natural advantages. "Knowledge is power;" but like the productions of the soil, it must be planted, and carefully and sedulously cultivated, before it can produce a profitable harvest. We have all the materials for its successful production; let us not throw them away; on the contrary, let us make uncommon efforts to raise gradually, though energetically, a fabric which may serve to perpetuate our approximations to perfection; a fabric which will extend, not merely over ourselves, but over our latest posterity, an imperishable ægis.

These are not times that will allow of remissness; for as truly as it is that we are now too passive and regardless of our real interests, so truly will the direst calamities await us, if we neglect any longer to rise and be doing. Believe me, though these are only the admonitions of A Rustic.

Profitable Management.—A general rule among farmers should be, to keep the best and sell the poorest living productions of a farm. The most indifferent fowls, pigs, lambs and calves should be selected and sold. The best kind of seeds and grain designed for sowing, should be preserved. The choice butter and cheese, the best of the hams and salted meat, and the finest domestic cloth should be sent to market.

OAT GRASS.

Gideon B. Smith: *Beaverdam, Va. March* 30, 1831.

Respected Friend,—Amongst the grass cultivated in our country, there is one which I think has not received its due share of attention. I speak of the Highland meadow oats, sometimes called Peruvian grass; *avena elatior.* The first person who tried its merits in this state, as far as my knowledge extends, was the late Col. Taylor of Caroline, who cultivated it a number of years; and in a paper read before the Agricultural Society of Virginia, drew a comparison between it and various other species, as adapted to our climate, highly favourable to its excellence. It has also, if I mistake not, received his encomiums in some communications to the American Farmer, as well as those of other contributors to your valuable Journal.

It possesses the merit of affording an abundant supply of herbage, at a very early, as well as to a very late season. It shoots up sooner than the orchard grass, and retains its verdure longer, when the heats of summer however, overtake it, it furnishes less pasturage; it answers exceedingly well to sow with clover. The period at which they come to the scythe being the same, and the meadow oats retaining its erect position, thereby serving to support the clover; render the mixture of these two grasses very desirable. Timothy, which is frequently used to mix with clover, ripens so much later, that it can only answer a single purpose.

The best season for sowing the seed is in the fall, at the rate of about a bushel to the acre. The young plants are very hardy, and survive the winter without injury. I have, however, succeeded well after spring sowing, and farther north it might be attended with equal or better success. In either case, the ground should be harrowed after sowing.

I have found it to grow well on all lands that are not wet. Its name indicates that it is better adapted to dry land, and accordingly I have not had it to thrive where the soil was very moist. In lands that suit it, it will remain without deteriorating, for an almost indefinite time, neither suffering the encroachments of other grasses, nor failing from a want of the peculiar food necessary to its sustenance. Neither do I perceive that it becomes more thickly set. I have now a lot that has been standing for a number of years, and the growth is still as vigorous and luxuriant as at first.

My experience goes to show that it is well calculated to improve the land. The first that I sowed was on a very thin lot, which in wheat scarcely doubled the seed at the time it was laid down in this grass; and after it had remained in this state three years, the ground was fallowed and sowed in rye, which yielded thirty bushels per acre.

I do not consider the fodder afforded by the tall meadow oats, alone, to be equal to that of timothy, nor is it so great in quantity; but as they are adapted to different soils, their relative claims to regard cannot be fully brought into view. The chief merit of the oats-grass is the early and late herbage it furnishes; its excellence for mixing with other grasses on lands intended for the hoof, the pressure of which it will bear for any length of time; and with clover particularly when designed for hay. It will, moreover, flourish well on land where clover and orchard grass will not take; and that there is much of this quality, I fear is lamentably the case, even amongst the readers of the Farmer. Though it fails in its luxuriance in the summer months, it springs up in the fall with freshness and vigour, and remains verdant till the end of the year. On the whole I consider it exceedingly valuable and richly deserving a more extensive cultivation.

I would add, that as the seed are shed with great facility as soon as they become ripe, some attention is necessary to watch the proper moment to save them. One or two days may make an important difference in the crop. They ripen with me early in June.

Respectfully, T. S. P.

[*N. B. By the Editor.* It is believed to be the practice, when grass-seeds are mixed, to use half the usual quantity of each to the acre. Thus, half a bushel or three pecks of the oat-grass, is the proper quantity for an acre, when mixed with clover.]

DOMESTIC ANIMALS.

Mr. Smith: . *Fayette County, Ky. March* 18, 1831.

Sir,—My experiments for about seven years on several kinds of domestic animals, seem to me to establish certain principles, which are important to be known to breeders. The results are communicated to you for the advantage of any one who takes interest in such matters;—and as some slight remuneration for the great advantages I have derived from the American Farmer.

1. A pointer slut bred to a dog of any other species,—say a common cur,—will produce dogs very much resembling each other; all about half pointer and half cur. Those dogs bred again on each other, will not produce dogs like themselves. One will be a full cur,—another will be nearly a full pointer,—in appearance and qualities. This is true of all other species of dogs, I have no doubt; as I have tried it often, on many species.

2. The Blue Cape Goat, with rough hair, and wattels under the neck, bred upon the smooth black or spotted Aleppo Goat, will in the first cross, produce a half bred animal in appearance, as well as in fact. These half breeds, crossed on each other, will produce sometimes a real Cape, sometimes a real Aleppo, but never a mixed animal. The goat more than any other animal, preserves the appearance of its sire.

3. The broad tailed Barbary sheep, crossed on the fine Merino; the Barbary crossed on the common sheep; and the Merino crossed on the common sheep, all exhibit similar results as to the principle involved. The first cross would exhibit about equally the appearance of its immediate progenitors. That race crossed on itself, would produce animals bearing a very slight resemblance to each other,—and not a strong one to their immediate ancestors; but reverting, as it were, to the original stocks; one like one race, another like the other. There being, however, in all animals, a strong tendency to preserve the qualities and appearance of their most inferior ancestor.

4. The short legged, small boned China hog, crossed on the tall, gaunt hog, called the English Grazer, produces a mixed animal of fine appearance. That mixed race crossed on itself, will produce of the same litter, pigs resembling neither parent; one being the low, round China, another the tall, slim Grazer.

My experiments with the horse and the cow tend to the same conclusion. But as I have been unable to obtain two races of cattle, only remotely related to each other, and both of pure blood, I have not considered myself at liberty to rely much on the results of my experiments with cattle. With the horse it has been somewhat different; my experiments with that race, however, have not exceeded twenty cases. But all these cases, and many others, in the hands of other breeders, convince me that the facts stated in relation to other animals, are in a striking degree true of the horse.

The inference I draw is this: that it is not possible to preserve a mixed race of any kind of animals, by crosses from animals that are themselves of mixed races. If you want a half bred, two half breds will not keep it up in qualities, although they in fact produce it. Two full bred animals of different races will produce a half bred race of uniform qualities. A full bred animal and a scrub will also produce a half bred race of another kind, but of uniform qualities. But to preserve any such mixed races you must constantly recur to the original stocks.

You perceive if this is true, how very deeply the interest of every breeder is staked, in the preservation of the purest blooded domestic animals. You will see also how idle it is, to give undue celebrity to any of those mixed races of animals of various kinds, which are constantly *being invented* in the world; and which, so far as their value depends on blood, or qualities derived from peculiar stocks, must, by a law of nature, disappoint our hopes in the very first cross from them.

There are other points of much interest connected with this subject—and if you should consider it desirable, it may be recurred to hereafter. In the meantime, I should be thankful to you, or any of your correspondents, who will publish in the Farmer, a brief notice of the roller, the manner of its construction, when, with what crops, and how to use it; with such other information about it as may be useful.

Your obedient servant, R. J. B.

[The reasoning of our correspondent appears to be fully warranted by the facts with which he supports his argument; but, without intending either to approve of or controvert the theory, we would call his attention to some instances of crosses which do not appear to revert back to the originals when bred upon themselves. The improved Durham short horn cattle were undoubtedly produced by cross-breeding; so were the Dishly sheep; so were, in fact, all our valuable improved stock; and it is known that these bred upon themselves, always produce their like; and in this fact consists exclusively the value of pedigrees. We would also suggest, that there are very few varieties of domestic animals that have not been produced by cross-breeding, and that there is scarcely a valuable original animal known. If our correspondent's theory, that it is impossible to preserve a mixed race by crosses of animals that are themselves of a mixed race, then surely we must recur to the original progenitors of the Durham short horns, if we would secure that race. We have thrown out these hints, merely for the sake of eliciting truth, and hope our correspondent will so consider them.—*Ed. Am. Farmer.*]

HORTICULTURE.

(From the Connecticut Courant.)

On Cropping Potato Flowers—Grafting—Fruit Trees.—Rosebugs.

Having heard and read that by cropping off the flowers of potatoes, the roots would be larger, I have, the summer past, made the experiment. The result, however, does not authorize the opinion I had heard anvanced—I perceive not the least benefit from cropping. Next to the richness of the soil, the most important thing towards insuring a good crop of potatoes, seems to be, to plant them at such distances as to prevent the ground from being shaded by the stems and leaves.

In no part of agriculture, is negligence more conspicuous than in the choice and cultivation of fruit. Fruits indeed will grow without much attention; but what are the apples, the pears, the peaches, the cherries, which fill the orchards and gardens of our farmers! Nine-tenths of them are a spontaneous growth from the seeds—small, crabbed, austere, and not fit for eating. Every person knows, for he sees, that many species of fruit, if propagated by seed, degenerate. An apple seed will produce an apple tree: but not often if ever, an apple of the same size, form and quality. The seeds of apples, cherries, peaches, pears, &c. propagate the same genus, or kind of fruit; but not the same variety. To insure the continuation of good fruit, however, nature affords another mode of propagation, which requires the interference of man; thereby making his industry and attention essential to his enjoyments. This mode of propagation is by separating the buds of one tree and inserting them on another. The buds are a sort of lateral progeny, issuing from a stock—and each branch may be considered as a *new tree*, taking root in the stem on which it grows. But in this part of the economy of vegetables, there is a curious fact which ought to be universally known to those who ingraft or inoculate. Every fruit tree must have a certain age before it will produce fruit—in this particular resembling animals, which cannot propagate their kind, till a certain age. Thus a peach tree from the stone will bear the third or fourth year: but an apple tree from the seed must be twelve or fifteen years old, to produce fruit in perfection. But it is remarkable that scions or shoots from the top branches of a bearing tree are essentially of the same age as the tree; that is, capable of propagation or the production of fruit. Thus a bud or lateral shoot from a main branch of a tree twenty years old, is itself of the same age, as to the purposes of production. On the other hand, the shoots from the root or body of the tree near the earth, are no older than the tree was when the stem from which they spring first grew. To understand this, we must observe that no given part of the main stem ever rises higher than it was when first formed. A tree grows higher by accretion or additional substances at the ends of the stem and branches; but the part of a tree once formed always remains at the same altitude; and a shoot from the growth of the first, second, third, fifth or tenth year, partakes of the power of propagation belonging to that portion of the tree. Hence suckers from the lower part of a tree should not be taken for grafting, as they will not bear as soon as scions from the ends of the branches which are already of a bearing age.

But another fact is equally important.—The age of a tree is limited as well as that of an animal: Care and cultivation will add vigor to the life and length to the age of both; but the life neither of one nor the other can be prolonged beyond a certain period. Hence scions for grafting should not be taken from very old trees—for being as old as those trees, the new trees will be short-lived. Scions should be taken from the most thrifty top or lateral branches of trees which have just arrived to the bearing age. The best time in apples is from fifteen to thirty years of age.

Hence we deduce the reason why particular species of fruit *run out*, as it is commonly termed. The seeds of apples, for instance, contain the germ of an infinite variety of fruit. New varieties are springing up without end, and old ones are becoming extinct. When a particular variety, say the pearmain, comes into existence, it is propagated by buds and scions as long as the original tree will endure, which may be from seventy to a hundred years; I believe not longer.—The species must then become extinct, unless another tree bearing the like fruit should accidentally spring from a seed, which can rarely happen. But new species equally excellent are continually produced from seeds. The Winter pippin, unquestionably the best apple for winter that I have ever seen, was the spontaneous production from a seed, at Newton, Long Island, where the original tree is now or was lately standing.

The fact that particular sorts of apples *run out*, has often been observed in England, though the cause has not till lately been discovered. But the fact seems to depend on an established law of the vegetable economy.

It is well known that in many parts of our country, a small bug called, without any good reason, the "*rosebug*," has, for some years, spread destruction among some species of fruits.

These insects, after feeding about three weeks, suddenly disappeared. Solicitous to discover their mode of death, and especially the place and manner of depositing their eggs, I carefully inspected the trees where they had fed, and the surface of the earth beneath the branches. I soon found the remains of the bugs on the earth, under the trees. The bodies had not lost their form; but were hollow—and a considerable perforation appeared near the lower extremity, by which probably their eggs were discharged. From these facts, I am led to conclude that the eggs are deposited on or a little within the surface of the earth. Possibly they may be lodged among the loose bark of the tree, or attached to the leaves.—If the eggs are deposited on the earth, they are proof against the effects of frost, but may be subject to perish, if covered deep in the ground. Their numbers in my garden, the last summer, were far less than in the preceding summer, which diminution may possibly be owing to the digging of the ground late in November last—a practice which I believe of great use in the destruction of insects. This practice may kill the eggs of some insects by exposing them to frost and rain; others, by burying them too deep; in short, by disturbing the order and disposition of the eggs made by the insects themselves or breaking their covering. I would only further remark that the rosebugs appear to fall and perish under the trees where they last feed—I found no carcasses, except under such trees; and if digging the earth and turning it over, will destroy the eggs, the work will be much abridged by confining it to these places. But a further knowledge of the history and habits of this animal, is much to be desired; and I cannot but hope that some of your subscribers will furnish it.

With regard to insects in general, I would remark, that many of them lodged their eggs, well secured in a cover of firm web, on branches of trees, under the loose bark, and within cracks. Some are said to attach them to leaves, which fall and form a warm covering to them. For the destruction of such as are fastened on the bark, it may be very useful to scrape off the loose bark in the autumn or the winter, which falling upon the earth would be exposed to water and snow, which might cause them to perish. This might be effected with a hoe, fastened to a long handle—and if the edge is curving, so much the better. This scraping of the trees would be useful to the trees also, by stripping off the dead bark, which impedes their growth and fruitfulness. Nothing is better for a fruit tree than to keep the bark smooth, clean and healthy.

Insects seek a hybernacle, or winter lodge, under the rails of fences, in post-holes, under windows—in short, wherever they are secure from water. I make it a practice to scrape off these lodges in time to expose them to bad weather, and destroy as many as possible. By this means, and by destroying every nest of caterpillars. as soon as it is formed, I have evidently reduced the number of noxious insects in my garden. I attack them in every fixed stage of their being—in the egg inclosed in the hybernacle—in the caterpillar state or larva—and in the chrysalis or aurelia state—for when the insect has arrived to his perfect form, he takes wing and escapes.

New Haven, Oct. 11, 1801. N. Webster.

Mode of Grafting on the large Branches of Old Trees.

(Extracted from the Books of the Aberdeenshire Horticultural Society.)

I beg leave to submit to your consideration a mode of grafting upon old stocks, branches, &c.. of any size. The method is simply this:——Having headed down your tree, take a scion and place it upon that part of the stock where it is meant to insert it. Cut upon both sides lengthways, through the bark to the wood an inch or more long, directly opposite each other; then cut across between these at the bottom, observing to have it rather too little than too much. Raise now the bark between the incisions, by a bone or ivory wedge, or the handle of a budding knife, &c., as most convenient; which will be easily done, as the wood and bark will easily separate when the sap has arisen, when the void will appear as a mortise. Prepare now the scion, as in the common way for whip grafting, by cutting away one side; then paring away the rind or outer bark on both sides of the transverse section, making the lower end square; so that, when placed in the mortise, it may fill the place exactly as a tenon, the end uniting closely with the bark of the stock.

Tie now with matting in the usual way, observing that if there is a vacuity between the scion and base, in consequence of the bark of the stock being thicker than that of the scion, it will be necessary to place something above that part of the scion, so as the void may be filled up, that the tying press it tight. If the operation is performed on branches rather *low horizontal*, clay is to be preferred as a plaster; if above, pitch, &c. (or grafting wax,) in case capillary attraction is necessary. By capillary attraction, I mean having a bottle or jar for the purpose of holding water; a bit of cord or narrow selvage of cloth, from 24 in. to 36 in. long, as a conductor, the one end immersed in the water, and the other end turned once or twice round the scion; the vessel for the water to be filled as often as necessary.

By this mode I have no doubt that cuttings, even from America or India, if kept moderately moist (damp) the passage, will, in most instances, succeed.

In the latter end of the month of March last, a cutting of a new particular pear (Duchesse d'Angoulême) was sent me from the Horticultural Garden of London. When received, the buds were 1 inch long, and perfectly blanched from the lateness of the season, and the package having been in damp moss. I cut the shoot in two equal parts, and wrought them in the manner above described. The buds in the course of a day became quite black and died away; I had then recourse to capillary attraction. By the first week in May, the top or uppermost part began to push from the *side* where the former bud was; and about the middle of June the lower part also.

This operation, to be denominated *mortise-grafting*, has been witnessed by the secretaries of our Society at different periods of the season; and the same method was pointed out to Messrs. Stevenson and Fraser, the former of whom, to my knowledge, has adopted the plan with equal success this season.

To the size of your stock may be proportioned the number of your scions, say from half an inch to as much more as you please between. When capillary attraction is had recourse to, it will be most advisable to use the pitch composition, as the constant current of water loosens the clay.

I am, &c.

Alex. Diack.

RURAL ECONOMY.

A WORD TO BEE-KEEPERS.

AN EFFECTUAL SECURITY AGAINST THE WORM.

As soon as your bees commence working in the spring, incline your box or hive on one side, and with a slab of wood having a thin edge, scrape the stand immediately under the hive, also around the inner edge of the box, taking care to remove all the web that may be attached to the stand or hive, as the whole secret is, in keeping them free from the web, formed by the moth or fly. Having completed this operation, provide yourself with four small blocks of wood, and place one under each corner of your box, so as to raise it about half an inch from the stand, this will enable you to clean the stand without removing the hive; this scraping operation must be repeated every three or four days, if there should be any appearance of web forming on the stand or around the inner edges of the hive. It seems necessary to remark, that the moth or fly commences its attack by a kind of regular approach, first forming its web on the stand, then extending it up the sides of the hive, until it gets complete possession; by a little timely attention in removing the web as directed, the ravages of the worm may be effectually prevented. As an additional part of the plan proposed, it will be necessary to make an entrance for the bees, by cutting a perpendicular slit in the front of the hive a few inches from the bottom, say about two and a half inches in length and one fourth inch wide, with a kind of shelf under it, to serve as a resting place for the bees going and returning to the hive; after being a little used to it, the bees seem to prefer this entrance to the one at the bottom. In the winter remove the blocks from under the hive, and allow it to rest immediately on the stand; this will render the hive perfectly close at the bottom, and the entrance in front being purposely made narrow, will guard against the attacks of mice, which are sometimes troublesome.

Rusticus.

FRENCH PREPARATION OF COFFEE.

Mr. Smith:

In all that concerns the table, the French far excel all other nations. Their dishes are savory, palatable, soluble, and wholesome. Your receipt for making coffee according to the French mode, in the last or 12th volume of the Farmer, is good, if it provides, (which I do not recollect, and my volume is at the binders,) that the ground coffee be wet into a paste and kept in a glazed vessel over night, before used in the morning; but you have omitted two important particulars which I will supply—one I derived from the published letters of Mr. Carter, of New York, who lately travelled in France, and the other from a gentleman who had resided in a French family which came to this country from St. Domingo. Mr. Carter says, the French add boiled milk to their coffee, which gives it a mellowness not to be imparted by cold milk or cream; and my other information is, that the French sweeten their coffee with sugar candy, or sometimes with what is about the same thing, with clarified syrup, not yet reduced to a state of crystalization. The process for making either of these is sufficiently simple, but as the last has abridged labor, and many conveniencies to recommend it, I will speak only of that. An egg with its shell is beat up to a froth and added to two or three quarts of water in a bell-metal kettle—from eight to twelve pounds of sugar, (either brown or white) is added to this, (I am told a few glasses of lime water is a useful addition, but I have not tried it,) and it is simmered and scummed over a bark or coal fire, until clarified and reduced to a syrup of the proper consistency, when it is put up for use. Besides for coffee, this syrup is also excellent for fritters, puddings, &c. if a little Cogniac is added to it. I have tried all—the strained coffee, the boiled milk, and the clarified sugar, and commend the whole.

Cousin Tabitha.

TOM JEFFERSON AND SKY LARK.

These stallions, sired by the imported Cleveland bay Exile, out of blooded mares, have left Maryland; Gov. Trimble of Ohio having purchased an interest in Tom Jefferson, and Sky Lark, (believed to be the only *pure* hunter in this country,) having been farmed to Messrs. Lee and Moore, of Carlisle, Pennsylvania, for the present season. It is the cross from the Cleveland bay with the blooded, that furnishes London with the highest priced coach horses, and the country with the most approved for the road and chase. The cross of the above stallions, with the mares of Ohio and Pennsylvania, is peculiarly adapted to improve their breed in style and action, without which, a horse cannot be in requisition, or command a high price for *quick* travelling. For further information relative to the great value of this strain, the intelligent breeder is referred to the 2d vol. Am. Farmer, page 239; 4th vol. Am. Farmer, page 113; 7th vol. pages 22 and 104.

A Breeder.

(From the New York Farmer.)

MANAGEMENT OF POULTRY.

Break shells of oysters and clams to about the size of grains of corn, or smaller, and place where your barn-door fowls can have constant access. They will eat of this, and it greatly assists in forming the shell of the egg. To ensure success in the raising of poultry, the newest laid eggs should be gathered with the utmost care, to avoid any small break or fracture of the shell; the setting hens should be each in a box or barrel by itself, so that they can be covered up, in order that they may sit undisturbed. Once a day, and that in the morning, they should be very gently lifted off their nests and fed, and the moment they return, be again covered. They will, in two or three mornings, become quite habituated to this order, and almost every egg put under them will produce a chick. The feed of chickens, and more especially ducks and turkeys, should be Indian meal, ground coarse, and mixed with *sour* milk.

MISCELLANEOUS.

CAROLINA; OR, THE PLANTER.

BY GEORGE OGILVIE.

(Continued from page 23.)

But if, when winter, with inclement breeze,
Strips the brown foliage from the shivering trees,
Our ancestors forsake their native home,
In quest of game thro' these new wilds to roam;
When turning suns the teeming buds disclose,
They seek the mountains where their sires repose;
From aged Pines their shaggy honors tear,
And sweep each sacred tomb with pious care.
And when yet warmer suns and summer rain
Distend with curdling milk the rip'ning grain;
The mystic dance round holy fires they tread,
And chant the praises of the mighty dead.

Pleas'd with the rites, their spirits still are near
To nerve the arm and urge the flying spear,
Whilst foes in vain attempt each mortal part;
Or forceless falls, or devious flies the dart.

Succeeding generations further stray,
And later turn the pious rites to pay;
Until the sons, more impious than their sires,
Nor tread the mystic dance nor light the fires,
Forget to chant the praise of warriors dead
Whilst weeds obscene the unswept graves o'erspread.

No guardian spirits now attending nigh,
Nerve the lax arm, or teach the shaft to fly;
But ghosts avenging aid each hostile band,
Or 'gainst a brother arm a brother's hand.
And, lo! perhaps ordain'd our race to end,
From other worlds behold an host descend;
Who've stole the awful thunder from the sky,
And taught swift death on light'ning's wing to fly.
Or is't the voice of our offended sires,
Calling to light the long-neglected fires?
It is!—Then haste t'appease each injur'd shade!
Quick let the dance—quick let the song be paid!
Fly! fly to purge each long polluted grave!
So shall our sires their sons repenting save.
Ah! would these limbs support this palsy frame,
I in the mystic rites a share should claim!
But here five warriors and a virgin's shade,
Attend me living and expect me dead.
And Brothers! in more prosperous times, when you
Amidst these swamps the bear and stag pursue,
Refuse not to our graves the dance and song!
So shall our ghosts those prosperous times prolong!
So spoke the Seer—The listening host obey—
And now the muse resumes her rustic lay.

Within your island, if no knolls are found,
Hap'ly the circling stream's opposing bound,
Precipitous, erects a lofty brow,
That shines reflected in the wave below.
If so, that shore opposing must be thine;
If to be bought with treasur'd heaps of coin.
What tho' th' unfruitful soil reluctant bears,
Or verdant sward, or Ceres' yellow ears?
There living springs with liquid crystal flow,
And there elastic gales salubrious blow.
Enough of wealth this fertile island yields,
There your abode—and here your cultur'd fields.

If Rice you plant, whose roots delight to grow
Immers'd in floods, for rice the floods o'erflow;

Or if that plant whose envied tint delights
Th'exulting hearts of Windsor's garter'd knights;
Or maze, or aught that a dry soil requires;
Check'd by your mounds, th'obedient wave retires.
But tho' such isles and vales surpass the rest,
For all productions fit for some the best;
See, other lands luxuriant harvests bear,
That well repay th'industrious Planter's care.
Our sea-girt isles will not their aid deny,
To rear the Plant that teems with Indian dye,
Or stately maze—Perhaps TRINACRIA's boast,
The golden wheat, nods heavier on *her* coast.
But *here* shall Bacchus and Minerva join
Their ancient gifts, the Olive and the Vine;
Whilst Neptune, as to Attica of yore,
Wafts the proud courser from th'Arabian shore;
Whose sons assert the undiminish'd fire,
Strength, grace and fleetness of th'imported sire;
When loud to arms the martial clarion sounds,
When echo vibrates to the op'ning hounds,
Or the long course is urg'd with well match'd speed,
Till dubious *victory* crowns the panting steed.

Here the ripe orange gleams in burnish'd gold;
Here bursting pods the cotton's down unfold;
Whilst busy commerce finds a nobler use,
Than fits those various oaks rich swamps produce,
For that,* which, neighbouring to th'Atlantic main,
With boughs wide-spreading shades the sandy plain;
Whose verdant garb eternal life displays,
Alike 'midst winter's frosts or summer's rays.
By it the Planter's labours are convey'd
To climes remote—by it his toils are paid
With all the luxuries either Ind' bestows,
And all the arts ingenious Europe knows.

Nor waves the Pine unuseful o'er the land!
Unnumber'd wants its friendly aid demand.
Man's needful drudge, of high or humble lot,
It rears the swelling dome, or log-built cot.

Where late the bristly fringe of mournful green,
The scaly cone and rugged bark were seen;
The mast and yard expand the ample sail,
To catch the breath of each impelling gale;
And that balsamic juice which once supply'd
Prolific nature's vegetating tide,
Defends yon Argo's sides from gnawing worms,
And bids her cables mock the wrath of storms.

Tho' Ceres frowns not on our sea-bound isles,
She on our inland fields more bounteous smiles.
The level vale, begirt with little hills,
Bath'd in their tribute of a hundred rills,
When waving with the water loving grain,†
The wreath resigns not to the tide-wash'd plain;
And all the gently rising heights around,
With Oaks, with Walnut, Beach, and Hickory crown'd,
Bespeak a soil that courts the stately maize,
The monarch of the field, its stem to raise,
Tall as a sapling of no vulgar size;
Like some plum'd champion's helm its tassels rise;
Pendants of vivid green surrounding play,
Dance in the gale, and glisten in the ray;
Whilst to its summit from the firm set root,
Each joint prolific branches into fruit;
Which, when develop'd from its silky shells,
Shows like th' industrious bee's nectarious cells;
Nor sweeter balm have bees from Hybla borne,
Than the cream curdling in the rip'ning corn.

Nor Maize alone the fertile furrow yields,
A triple harvest loads the willing fields;
Round the tall Maize the Pea its flow'rets twines;
Below the Pompion's fruitful stem reclines.

But shall dull Prudence, to penurious views
Alone, direct the Pupil of the Muse;
And Avarice, with his iron chain, control
Each finer feeling of the youthful soul;
Whilst nature's beauties claim the poet's praise,
And taste demands his tributary lays?
See, where yon river rolls with active force,
Unthrided half the mazes of its course!
No more our eye the same dull prospects tire,
Of pines and sand, impervious swamps and mire;
In bolder hills the wavy landscape swells,
Foams in the cataract, dimples in the vales;
And where the babbling rill the dell divides,
The unfading Holly decorates its sides;
Whose vermeil fruit the wint'ry blast sustains,
Till Aries burst his Hyperborean chains.
Whilst yellow-jasmines that with woodbinds vie,
To charm the smell, or captivate the eye,
Flora's sweet harbingers, that first appear
To herald spring, and deck the op'ning year,
In flow'ry bands the holly's limbs entwine;
So Asia' sons in gilded fetters shine.
Nor let Golconda boast her mines, that glow
With fainter colours than that Holly's bough,
Which all the em'ralds lively green displays,
The ruby's blush, the topaz golden blaze.

Health and contentment, paint with roseate die
The virgin's cheek, and sparkle in her eye.

The vigorous hind, rejoicing 'midst his toil,
With the sharp plough-share cuts the gen'rous soil;
Or fells, with many a far-resounding stroke,
The pond'rous Hickory or Castanean oak;
Nor envies him whose sickly frown can make
A thousand sons of swarthy *Afric* shake.
Wide *'fore* his door the eary field extends,
Behind, the loaded blushing orchard bends—
His lowing herds resign their milky tide;
His bleating flocks bid rapid shuttles glide,
To clothe their lord, when wint'ry tempests blow;
For summer heats *there* flax and cotton grow;
And where, round mulberries, grapes spontaneous twine,
The insect-artist twists its silken line.
On ev'ry bough the feather'd choirists throng,
Unmatch'd in plumage, or unmatch'd in song,
Nor lavish nature here to *all* denies,
To captivate at once our ears and eyes.
If Mocking birds, array'd in modest gray,
Should bear the prize for vary'd notes away,
The Nonpareil's and Redbird's pleasing strain,
Shall oft in doubt the judging ear retain;
Tho' *this* each brilliant tint of Iris joins,
And that in more than Tyrean splendor shines.

Midst scenes like these sure ev'ry heart is gay!
What gloomy care obscures the cloudless day?
Alas! Antonio toils not to obtain
The bleeding vintage, or the rip'ning grain!
Tasteless for him the mellowing orchard glows,
Who seeks no meed from labour, but *repose*.
Yet seeks in vain!—Tho' the worn body sleeps,
The restless soul a painful vigil keeps!

Yet hid from vulgar mark his sorrows lie,
Scarce seen by friendship's penetrating eye;
Tho' oft the groan thro' sounds oft mirth would seek,
And tears obtrusive stain the smiling cheek.
At length fond importunity prevail'd,
To learn that sorrow which unknown we wail'd.
"Why hides Antonio thus his treasur'd pain?
His only treasure, friendship asks in vain!
Give to this breast, give to the world your grief!
What hidden malady can find relief!
Indulge that sigh, indulge that struggling tear,
And let your sorrow sorrow's livery wear!"
"Away!" he cries, "all pageantry of woe,
Mockery of anguish, unavailing show!
Who mourn like me, all vulgar forms disdain,
And spurn the mummery of affected pain!
No! if the garb can influence distress,
Give mine those trappings that make sorrow less;
Gay festive colours that may grief control,
And blot the mournful image from my soul!
Blot it from my soul! detested prayer!
Impious ejaculation of despair!
Never, my Fanny, shall my soul resign
Thy lov'd idea, whilst to think is mine!
Deep as that soul's last hope, by love enshrin'd,
The fond remembrance still shall fill my mind,
Whilst life's dull stream glides thro' these wretched veins,
And reason's latest trembling gleam remains,
Still must I love thee! still deplore our fate
And still its cruel authors execrate!
Yes! Charity itself bids me detest
Th' unfeeling Parent and the crafty Priest!
It bids me curse that narrowness of mind
That parted hearts the God of nature joined!
But most it bids me curse that art which bends
His holy laws to mercenary ends!
That cloak of villians, and that snare of fools,
Woven and worn in Layola's schools!"

Blame not, my friend, this agony of pain;
Nor deem that I beyond the cause complain.

"You've seen my Fanny—seen her and approv'd!
You've own'd her form'd by nature to be lov'd!
When smiling with a more than mortal grace,
A seraph's spirit beaming in her face,
Playful she spoke—Enchanted with her voice,
"So happy angels," you exclaim'd, "rejoice!"
But when, with sense that left her years behind,
She op'd the richer treasures of her mind,
Or sweetly breath'd soft music's tend'rest strain,
You swore "you knew not heav'nly sounds till then."

You've seen, you've heard her, but you have not heard
How strong the ties by which we were endear'd!
How love, beneath the mask of friendship, stole
Into our souls, and rul'd without control!
That fatal secret with such care conceal'd,
Now first to thee, and thee *alone* reveal'd;
Lock'd in a breast whose truth so long I've known,
I'm sure, my friend, is safe as in mine own.
It was our friend—my Fanny's brother—he
Who shar'd my heart with you and your's with me,
That bade us first the treach'rous guest receive,
And joy'd to see his winning wiles deceive.
Alas! he knew not that e'en then he spun
The *fatal thread* by which we've been undone.
He, gen'rous youth, by no mean passion mov'd,
Wish'd for a brother in the friend he lov'd—
"Friendship and love," he said, "are near ally'd,
A faithful friend assures a happy bride."
Ah Henry! hadst thou liv'd, we might have bless'd
The fatal hour when love became our guest;
My Fanny then, uncurs'd with wealth, had been
By common eyes like common objects seen.
Where no rank herbage tempts the herds to stray,
The purest stream untasted glides away;
Till some blest recluse bids the world farewell,
And on its margin seeks a lonely cell;
Him its sweet waters please, tho' thirst may cease,
Whilst its soft murmurs soothe his soul to peace.

There stands, deep bosom'd in an ancient grove,
An arbour fit for tend'rest scenes of love;
Where Jessmine folds the blushing Rose entwine,
And sportive Woodbines clasp the Eglantine.
Once, Britain, once best lov'd of all thy bow'rs,
Where balmy Zephyr fans the noon-tide hours,
Wantons around, and loads each flutt'ring wing
With all the fragrance of the flow'ry spring:
But now my jaundiced eye no beauty sees,
Wither'd the Roses seem, unleav'd the Trees;
Whilst breathing Zephyrs Coptic blasts appear,
That pestilence on lab'ring pinions bear.
There, with her brother to the shade retir'd,
I saw her first—there first my soul was fir'd;
Nor there, the more than lovely maid disdain'd
To view with partial eyes her brother's friend.

Years had we lov'd, before we dar'd to name,
Or even knew we felt the mutual flame.

Tho' hours seem'd ages when we were apart,
Tho' when we met, the palpitating heart

---

* The Live Oak is seldom found at any considerable distance from the sea.

† Rice.

Bespoke the growing fever of the mind,
Our untaught thoughts by slow degrees divin'd
The latent cause; not till the pleasing pain
Thrill'd in each nerve, and glow'd in ev'ry vein.
Then, 'twas too late, our rip'ning reason view'd
What fatal bars our happiness withstood.
Bars, which she knew no strength of ours could move:
But reason's silent, when the youthful love!

When titled suitors swell a father's pride,
And wealth provokes his avarice to decide,
It naught avails me that I know to trace,
Some ages back, a not ignoble race;
Sprung, as I am, from ancestors that claim
What private virtues may bestow of fame.
My poor ambition only lifts its eyes,
To fame like theirs, that envy's tongue defies.
I boast no honors, no proud trappings show,
Which knaves transmit to fools, or kings bestow;
Nor are my coffers with heap'd treasure lin'd,
My greatest wealth an unperverted mind!
What merits mine, when pois'd in hands that hold
A scale where titles *only* weigh and gold?
O, pardon heav'n, should love your rival prove
In youthful bosoms, when like *mine* their love!
For, ah! I found it then, and still I find,
That passion reigns despotic in my mind!
And had no other obstacle remain'd,
It o'er conviction had the vict'ry gain'd.

Hopeless we lov'd—despairing to enjoy
Our *only* wish, or that dear wish destroy.
Long, long we strove to extricate the dart,
By time and love deep barb'd in either heart.
But, like unskilful surgeons, still we found,
Our fruitless efforts but inflam'd the wound;
Till, like them, hopeless to extract the steel,
We strove to palliate what we could not heal;
And thought to see, when time the blaze should tame,
Mild friendship spring from passion's dying flame.
Fatal deception! learn ye youth to know
Impassion'd friendship as a treach'rous foe;
Nor trust the fond deceitful hope, to prove
The strength of prudence 'gainst the force of love!
Tho' lowly shores may stagnate waters bound,
The raging torrent scorns the loftiest mound;
Or, check'd awhile, thrice added strength it gains,
Bursts all its banks, and desolates the plains.
Scarce virtue can love's giant force control,
For sure no guilt defil'd my Fanny's soul!
And heav'n's my witness, that my thoughts survey'd,
'Till then from virtue scare a thought had stray'd.

* * * * *

(To be continued.)

SMITH'S OIL MILL.

A few days since, we were conducted through the *Oil Mill*, recently erected by Mr. Jabez Smith, at Fleets, and experienced much satisfaction from witnessing its operations in crushing, heating and expressing oil from cotton seed. It is in fact an auxiliary to, or *carrying out* of Messrs. Follett & Smith's machine for *hulling* cotton seed. While in its various constructions it is sufficiently simple to be easily comprehended by the attentive observer, it is, taken as a whole, an establishment complete, and holding forth the promise of fair profit to the enterprising proprietor, as well as great benefit to the community in which it is erected. We learn that between sixty and seventy gallons of oil, suitable for the use of painters, tobacconists, and generally all kinds of machinery, can be expressed at Mr. Smith's mill in the twenty-four hours—of course, this is an item destined to figure in the future exports of Petersburg; and is the more entitled to consideration, as it is derived without human labor from an article, which though abundant in this section of country, has hitherto been turned to but little account.—*Petersburg Times.*

Nothing makes a man suspect much, more than to know little.

RICE.

Last summer a number of rice planters of Georgetown, S. C., agreed to exhibit annually, each, thirty bushels of seed rice, as a sample of the product of a field, of not less than ten acres; on condition that the whole should be yielded to him, whose rice should be adjudged the purest and best seed. The first exhibition took place last month, when the judges took from six different parts of each distinct parcel, a wine glass even full—the six glasses containing about 5,178 grains—this was thoroughly hulled, and the red grains, carefully picked out and laid by. The least quantity of red found, was in the six glasses from Col. R. F. W. Allston's parcel, being *eight grains.* [*Savannah Georgian.*

Capt. Trant speaks of the ship Mahmoud as being ready to launch in the spring, at Constantinople, and as the largest ship in the world, and her proportions as perfect.

She has a flush deck, and is nine feet wider in her beam than the largest of our line of battle ships! Her length is 234 feet, and her width 63 feet; and her sides are four feet six inches thick. On her main deck she is to mount long brass 32 pounders; on her middle deck, 42 pounders; and on her lower deck, 68 pounders—besides four or more guns carrying enormous stone balls.

COMMERCIAL CURIOSITY.

The Mobile Register has the following hit at some western tobacco growers.—"There is now exhibiting at the New Exchange, a quantity of heading of tobacco hogsheads, recently imported from Bremen, composed of good stout Kentucky oak, from *six* to *nine* inches in thickness, well worthy the attention of the curious in those matters. There are hieroglyphics on some of the pieces, which, when properly explained, may not redound to the honor or credit of the gentlemen whose family insignia they may represent.

THE FARMER.

Baltimore, Friday, April 8, 1831.

Improved Stock.—The readers of the Farmer are referred to the communication of Mr. Barney in this number, for a demonstration of the advantages to be derived from improved breeds of cattle and sheep. Our Chester county friends will also find by that article that the palm awarded them for the finest mutton is already wrested from them. We expected no less, and intimated as much in our remarks on their statement; we, however, shall derive pleasure from any opportunity they may present us for restoring it. As to the best breeds of cattle, we do not sit in judgment upon the question, whether the improved Durham short horns, or the Devons are the best, under all circumstances; but wish to gather testimony on both sides, and give the farmers an opportunity to judge for themselves. It is, probably, not so much the question, whether Durhams or Devons shall be adopted, as whether either shall be made to supersede our present race of raw big bones. Let graziers and shepherds look at the prices obtained for the beef and mutton of the improved cattle and Dishly sheep, stated in the article referred to, and we think few will hesitate in coming to the conclusion, that something may be done by way of improving their stock. For example, how many common sheep would it require to command thirteen dollars and sixty cents, the price obtained by Mr. Barney for each of his flock? That is the question. Again, how much more provender will it require to raise and fatten five hundred dollars worth of common sheep, than was required to bring Mr. Barney's flock of thirty-seven to the state at which they were sold for that sum? That is another question; and the answers to the two questions will be weighty reasons in favour of taking immediate measures to obtain the improved sheep.

But, let it be remarked, it is not alone necessary that farmers obtain improved breeds of cattle or sheep—they must also adopt measures to keep up the breed, by selecting the finest of their flock for breeders. We do not think so much injury results from breeding "in and in," as from inattention to this important point. And this view of the case receives powerful support from the fact, that while the stock of one farmer degenerates, that of another is continually improving—both having commenced under like circumstances. To effect this object, it appears to be necessary to prohibit any animal from breeding, until it has obtained sufficient age to show its points; for very promising calves and lambs have in their development turned out to be very ordinary animals. It is believed, that if proper attention were paid to the selection of breeders, our ordinary stock would be much improved; but so long as the present *old-field* system of breeding cattle and sheep continues, just so long will even our present common stock continue to degenerate—and that is low enough now, in all conscience. But, however plain these truths may appear, most of our farmers turn a deaf ear to them, or put all their ingenuity in requisition to frame excuses for not adopting and acting up to them. One would think that self-interest, that otherwise universal stimulus of human action, would induce them to act differently; but it is not so. Even the fact of Mr. Barney's taking five hundred dollars for thirty-seven sheep, while for the same number they could scarcely get one hundred, will not carry sufficient weight with them to cause them to make the improvement. It appears to be of no use to tell them that it costs no more to raise a sheep that will bring thirteen dollars, than it does to raise one that will be worth no more than three dollars. But we are keeping the reader from the article to which we merely meant to call his attention—we again refer him to it, and request him to consider the propriety of doing likewise.

Orange Farm.—We hope soon to be able to comply with the requests of numerous correspondents for a statement of the management, stock, &c. in detail, of the Orange Farm. In the mean time, we can assure those who have expressed surprise at the amount of sales stated in a late number of the Farmer, to have been made from this farm during last year,—amounting to about $9,600,—that the fact there stated was literally correct. A remark made by a much respected friend at the south, however, has much truth in it. He observes, that a cow and an asparagus bed near a large city are valuable, while they would be worth but little in the interior. It is true, the Orange Farm is a dairy farm; but there are numerous other dairies in this vicinity, not one of which, we venture to say, can exhibit such a year's work. It is not so much to the branch of husbandry pursued, as to the order and system of management, that all farms,—whether near to or remote from a large city,—are indebted for a large or a small amount of income. One great cause of the small profits of most farms may be found in the fact that they are all devoted to the cultivation of two or three staple articles—bread stuffs, cotton and tobacco, comprise the great objects of agricultural attention in the United States. The farmer who cultivates wheat, never cultivates any thing else; the same may be said of the tobacco and the cotton planter; and let the state of the demand and the supply be what it will, from year to year the same unvaried routine is pursued. The result is what alone could be expected—very small profits. The merchant who should continually fill his store with a few staple articles, of which there was already an abundant supply, and disregard the demand for variety, would very soon have to shut up shop. If it be asked, to what other objects can we turn our attention? We answer, to any of those articles which enter into the consumption of the country, and for which we are indebted to other countries, or with the use of which we are obliged to dispense for want of ability to obtain them. A country such as ours,—with a diversity of soil and climate adapted to the growth of almost every thing that human necessity or luxury can demand,—ought not to complain of unprofitable farms while its agriculture fails to supply its actual wants. While we import silks, linens, wool, hemp, wines, oils, &c. &c. we ought not to complain of unprofitable agriculture—it will be time enough for that when we shall have rendered ourselves independent of other countries for necessary agricultural products. If the system and good management pursued at the Orange Farm were generally adopted, and the objects of agricultural attention varied to meet the wants of the country, complaints of depression in this branch of our industry would soon cease.

A Market for Cocoons.—The Editor of the American Farmer is authorised to say that any quantity of cocoons will be purchased the ensuing season, by a gentleman who is preparing to erect a filature in Baltimore. From forty to fifty cents a pound will be given for them, according to quality. Particular care should be taken in killing the crysalis, that the fibre of the cocoons be not injured by heat, and that all the crysalis be certainly killed. If the cocoons be put into a tin vessel the cover closed perfectly, and the vessel be placed in a kettle of boiling water for half an hour, the crysalis will be all killed and the cocoons receive no injury from too high a heat, as the water will prevent the temperature rising above the boiling point.

We have thought it proper to give this notice, that those who have been deterred from raising silkworms by the absence of a market for cocoons, might be induced to commence. At forty cents a pound, cocoons will be a very profitable article. One person with a boy to assist during the last ten days, can attend to one hundred thousand worms; which, if well attended to,—kept clean and well fed with white mulberry leaves, will produce 300 pounds of cocoons, which will bring at the minimum price, $120; and if really first quality, which they will be by proper attention, they will bring $150,—and the time occupied will not be over six weeks. What more profitable employment can females pursue? The gentleman will give notice in a future advertisement of the place at which the cocoons will be purchased. In the mean time, the Editor will take pleasure in giving all necessary information on the subject.—All letters must be post paid.

Prices Current in New York, April 2.

Beeswax, yellow 22 a 23. *Cotton*, New Orleans .10 a .12; Upland, .8½ a .10¼; Alabama, .8½ a 11½. *Cotton Bagging*, Hemp, yd. 18 a 20; Flax 12½ a 16; *Flax*, American, 7 a 8.——*Flaxseed*, 7 bush. clean .—— a .—— *Flour*, N. York, bbl. 6.75 a 6.87; Canal 6.25 a 7.87½; Balt. Hwd. st. 6.75 a 6.87—; Rh'd. city mills 7.00 a —— country, 6.75 a 6 87½; Alexand'a, 6.75 a 6.87½; Fredericksburg 6.62½ a 6.68¾; Petersg 6.68¾ a 6.75; Rye Flour, 3.87½ a 4 00; Indian Meal. per bbl. 3.50 a 3 75; per hhd. 16.50 a 17.00 *Grain*, Wheat, North, 1.46 a 1.50; Vir. 1.40 a 1.44; Rye, North, 82 a 83; Corn, Yel. Nor. — a 75; Barley, 82 a —; Oats, South and North, .31 a .35; Peas, white, dry, 7 bu. 5. Beans, 7 bu. 7.00 a 8.00. *Provisions*, Beef, mess 8.50 a 9.50; prime 5.50 a 6.25; cargo 4.62½ a 5.00; Butter, N. York, 12½ a 16; shipping, 8 a 11; Lard, 7½. a .9; Pork, mess bbl. 13.00 a 14.25; prime 9.75 a 10.75.

Prices Current in Philadelphia, April 2.

Bees-wax, yellow .22 a .22; *Beans*, bushel .100 a 1.12½ *Beef*, mess 10. a 10.50, prime 6 a 8.50, cargo 7; *Butter*, No. 1, 9½ a 10, No. 2, 6¼. a 7; *Cotton*, New Orleans 11 a .12; Mobile 10 a 12; Tennessee — a —, Alabama — a —; *Feathers*. South. .33 a .34, West. .33 a .34; *Flax* .6 a 7. *Flour*, sup. 6.50 a 6.62½, fine, 6.12½ a -Rye 4 12½ a 4.25 Corn meal, bls. 3.31¼ a —, hds. 16.00 a ——; *Flaxseed*, cask ——; bu. 1.45 a 1.50; *Grain*, Wheat 1.30 a 1.37½ Rye 65 a 67, Corn l. c. white, 65 a .66, l. c. yellow, 67 a .69, u. c. round, 71 a 72; Oats .33 a .34; Barley, Pa. .80 a .85; do. East. 87 a 90; black-eyed Peas .40 a .50 *Hams*, Jersey 9. a 11, Virginia 10 a 11, Western 8 a. 9. *Hemp*, 240 a 250; *Lard*, .8 a .——; *Oil*, linseed, 88 a 90. *Pork*, mess, 13.75 a 14.00, prime 12.00 a —; cargo 10.00 a —— *Rice*, 3.25 a 3.50; *Tobacco*, Kentucky .3½ a .6. Virginia 3 a 5.

AGRICULTURAL BOOKS.

A variety of the most approved works, both Foreign and American, on subjects connected with Agriculture, Horticulture, Farriery, &c. kept for sale at this office.

FOR SALE.

An Improved Durham Short Horn BULL CALF, by "Glocester," out of a very fine Cow of our common breed, will be sold very low if applied for immediately. He is now two months old, and an uncommonly fine animal. Apply at this office.

*April 7.**

AGRICULTURAL WAREHOUSE AND SEED STORE.

The subscriber would inform the public that he has the following articles in store for sale, all of the best materials, faithfully and well made, viz.

Gideon Davis' highly approved Patent Ploughs in all their variety—Davis' ploughs improved as more adapted to stiff soils. Bar Share and Coulter Ploughs improved. Substratum and Shovel Ploughs, Cultivators for Corn and Tobacco. His Patent Cylindrical Straw Cutters, superior to any other article of the kind in use, also Dutch Cutting Boxes, Wheat Fans, Threshing Machines, an assortment of Hoes, Shovels, and Spades, Hay and Manure Forks, Cast Steel Axes, Wove Wire, together with a variety of other implements of husbandry of the most approved kinds. Also a general assortment of the Messrs. Landreth's Garden Seeds, which are fresh, and of prime quality, Clover and other Grass Seeds. Fruit and ornamental Trees, Bulbus Roots, Flowers, &c. furnished to order. Likewise Peirson & Walker's superior Mule and Jenny Spindles. J. S. EASTMAN.

N. B. Plough castings kept constantly on hand to supply the place of those worn out, also all kinds of repairs done at short notice. J. S. E.

Extract from Mr. Hall's Letter to John S. Skinner.

"The straw cutter is here, and in operation, and a most *admirable machine it is*—the best I have ever seen in this or any other country. I am truly obliged to you for the selection of the machine, as well as to Mr. Eastman for his explanation of the mode of keeping it in order." CHAS. HENRY HALL, *New York.*

THE HIGH BRED IMPORTED IMPROVED DURHAM SHORT-HORNED BULL BOLIVAR

Will be at Franklin, on the Franklin Turnpike road, about four miles from Baltimore—during the months of January, February, March and April next.

At Epsom farm, near Towsontown, seven and a half miles from Baltimore, on the York Turnpike road, during the months of May, June, July, and August next; and at Franklin, in September, October, November and December.

Terms.—Five dollars, to be sent with each cow.

This Bull was selected by Mr. Coates, the keeper of the Herd Book, without limitation of cost, and was highly valued by Colonel Powel, who considered him in form, points, and pedigree, equal to any animal to be had in Great Britain.

Bolivar is red and white, was bred by J. Whitaker, Esq. England. The singular neatness of his shoulders, the straightness of his back, the width of his loin, the smallness of his head, neck, and offal, the quickness of his gait, together with the well known character of his family as dairy stock, render him one of the most desirable males for improving our neat cattle that can in any country be found.

The committee on Neat Cattle at the exhibition of the Pennsylvania Agricultural Society, reported as their opinion, that Bolivar was "*the handsomest and best Bull that has ever been exhibited at any of our shows.*"

Dec. 17.

BALTIMORE PRICES CURRENT.

Baltimore Market.—There is a trifling advance in flour, the wagon price of Howard street being $6.25, and those of grain and the store prices of flour, according to quotations. The market is somewhat calm, owing we understand to a scarcity of vessels to take flour to Europe. It is estimated that from 65,000 to 70,000 barrels of flour have been shipped from this port to Liverpool and London since the opening of our navigation. It will be observed that our quotation of red wheat does not include Susquehanna wheat. We learn that that wheat has been sold within a day or two at 1.30 a 1.35 per bushel.

Tobacco.--Seconds, as in quality, 3.50 a 5.00; do. ground leaf, 5.00 a 9.00.—Crop, common, 4.00 a 4.50; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 10 00; yellow and red, 8.00 a 14.00; yellow, 14.00 a 16.00.—Fine yellow, 16.00 a 20.00.—Virginia, 4.00. a 5.00.—Rappahannock, 3.00 a 4.00——Kentucky, 4.00 a 8.00. The inspections of the week comprise 335 hhds. Md.; 20 hhds. Kentucky; 15 hhds. Va.; total 370 hhds.

Flour—best white wheat family, $7.00 *a* 7.50—super. Howard-st. 6.37½ *a* 6.50; city mills, 6.25 a —; Susq. 6.25 *a* —; Corn Meal, bbl. 2.25; Grain, Md. red wheat, 1.25 *a* 1.30; white do. 1.30 *a* 1.35, Susq. 1.37½ Corn, white, 65 *a* 67—yellow 65 *a* 67—Rye, 60 *a* .63. Oats, .33 *a* 34. Beans, 90 *a* 1.00-Peas, 50 *a* 60--Cloven seed 5.00 *a* 5.50-Timothy, 2.00 *a* 2½--Orchard Grass 1.50 *a* 1.75--Tall Meadow Oat Grass 2.75---Herd's, 75 *a* 1.00--Lucerne 30 *a* 37½ lb.—Barley, 62½--Flaxseed 1.25 *a* 1.30—Cotton, Va. 9 *a* 9½—Louisiana 10½ *a* 12½ —Alab..9 *a* .11—Tenn..9 *a* .10—-N. Car..9 *a* .10½—Upland 9½ *a* 10½—Whiskey, hhds 1st p 28 *a* —; in bbls 30 *a* 31——Wool, common, unwashed, lb. 15 *a* .16——washed, .18 *a* .20-crossed, .20 *a* .22--three-quarter, .28 *a* .30--full do. .30 *a* .35, accord'g to qual.-Hemp Russia, ton, $250 *a* -; Country, dew-rotted, 6½. *a* 7c. lb.- water-rotted, .7 *a* 8c.—Fish, Shad, Susquehanna, No. 1, bbl. — *a* —— do. trimmed, 7.00—North Carolina, No. 1, 7.00—Herrings, Susquehanna No. 1. bbl. 3.12½ *a* 3.25--Mackerel, No. 1, 6.37½, *a* 6.50--No. 2, 5.50 *a* —— --No 3 3.50 *a* 3.25; Bacon, hams Balt. cured 10c.—Feathers, 33 *a* —-Plaster Paris, cargo price per ton, 4.25 *a* 4.37½, ground, 1.37½ *a* —-bbl.-Iron, gray pig for foundries per ton 30.00 *a* ——; high pig, for forges, per ton, 25.00 *a* 28.00; bar, Sus., per ton, 80.00 a 85.00.—Prime Beef on the hoof, 5.50 *a* 6 25—Oak wood, 3.00 *a* 3.25—Hickory, 4.50 *a* 4.75—Pine 2.00 *a* 2.25.

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EDITED BY GIDEON B. SMITH.

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5. Advertisements connected with any of the subjects of the American Farmer, inserted *once*, (seldom more) at one dollar per square.
6. All letters concerning this paper must be directed to the publishers. They must be free of postage, except communications intended for publication, and letters containing money.

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AGRICULTURE.

Emanuel Fellenberg's Institution, *at Hofwyl, in Switzerland, in two Lectures, delivered in Georgetown, D. C. by* F. A. Ismar.

FIRST LECTURE.

Ladies and Gentlemen:

I cannot but be highly sensible of the honor done me by your attendance on this occasion, when I come to address you on a subject more than once meditated on by many of your respectable fellow-countrymen, and find myself surrounded by a society of the well informed and most reputable of the citizens of the District. This consideration, and the importance of the subject on which I am about to address you, do not render my task the less embarrassing, nor can I forbear to claim your indulgence as a foreigner, and having yet to combat all the difficulties of a language of which I had not, a year ago, even seen the rudiments. I pray you to permit the deficiencies of my address to be absorbed in the deeper interest of the object I hold up to your judgments.

Eleven months ago I came to the United States for the purpose of observing the system of education in the famous School of Industry at New Harmony, in the state of Indiana. I was pledged to give a report upon this subject, according to my ocular convictions, and have done so, in a small pamphlet, that shows not so much what I did, as what I did *not*, find there. In one respect I have lost my time, and been disappointed in my hopes, but have become established in the conviction, that in the United States, as well as in other parts of America, there is much to do for education; although there is, at the same time, a general wish to attain that object.

It must be gratifying to a pupil of Fellenberg's to discover that he is much respected in this country; but it is also a matter of regret to perceive, that very few know what he has done, and what he still continues to do, in the furtherance of the great cause he has undertaken. Believing his system of education the most useful, and best adapted to the condition of free America, of any that has been hitherto devised, I think it expedient, gentlemen, to give you the means of judging correctly respecting it.

In all establishments of that description, education ought to be the end aimed at, and instruction only one of its means. Some will say that this distinction is too evident to require illustration, whilst others may be ready to ask, what is the difference between them? I will explain my meaning with as much simplicity and perspicuity as possible.

The object of education is to form the character and rectify the heart; to expand the intellect; to give force and dexterity to the body; strength and fortitude to the mind. Instruction directs itself more immediately to the memory. We can instruct the memory with things upon which intelligence can exercise itself, and intelligence exercised under the dominion of reason, influences the heart and character. Hence it follows, that instruction is one of the means of education, because it influences it directly. Certainly there is no education compatible with an absolute want of instruction; but it is likewise true, that much education with little instruction is better than much instruction with little education. There is but too much reason to reproach modern governments for having neglected education, whilst they have been occupied by instruction.

It was on these principles, gentlemen, with reference to this distinction, that Mr. Fellenberg founded a system of practical instruction, composed of nine establishments. This system and these establishments recommend themselves more and more to public approbation, the more they are known and examined. Each of these establishments is distinct from the other, and especially adapted to its appropriate uses. So essentially different are they, that the observer, at the first view, might naturally ask, what relation has the one to the other, and by what accident have they been united in this place? But he has only to elevate himself so high as to overlook all at once, and he will then discover the easy, natural, and necessary connexion between them. I shall now examine the different establishments, and, in a summary way, describe them.

Hofwyl presents, at its first view, a *Model Farm*, where you see a sample of agriculture in the highest degree of perfection, of which the soil is susceptible. This system of agriculture, though it is the best only in respect to its locality, proves, nevertheless, that the best system is that which teaches us to draw from the soil every thing which it can produce without impoverishing it; or that renders every year more to the poor soil than it takes from it; consequently, bettering progressively the ground, we arrive at the double object of preserving the permanent interest of the proprietor, and of enabling him, at the same time, to enjoy the greatest nett profit. Some had imagined that Mr. Fellenberg would exhibit at Hofwyl the prototype of every species of agriculture. That expectation is erroneous.

An enlightened agriculturist, who has studied rural economy judiciously, will be convinced that every one who knows how to observe with sagacity and to judge with discernment, will there find instruction and example, at least as regards the details. He who, on the contrary, would slavishly imitate Hofwyl, would necessarily end in having to support the consequences of a miscalculation. Mr. Fellenberg sought to perfect, by his example, the agriculture of Switzerland; but, at the same time, resolved many very important questions for other countries; he perfected the instruments belonging to husbandry, and in this way reduced the number of animals required for agricultural labors, and furnished means to devote a greater part of the land to human subsistence. He obtained more with less work, and the system of rotation pursued at Hofwyl can be applied, with few variations, to one-third part of the Helvetian territory, and is beginning to be applied every where. This was the first step by which to deliver Switzerland from an importation of foreign grains, and from a tribute, the consequences of which cannot be calculated for that country. The political independence of a nation can never be complete, if, for the subsistence of man, they depend upon the condescension of neighbors, who can impose upon them the hardest conditions, whenever they choose. It may be easily imagined that that part of the public administration charged with the care of the subsistence of a great country can be very much thrown behind hand. The inconsistency in the legislation of the different empires concerning this important object; the instability, the continual tottering of administrative measures regarding it; the public evils which we observe too often, prove this; although men of great intellectual power have been occupied with this object, not one has given a complete and satisfactory solution of the problem; and it would be very desirable, for the wealth of the civilized world, that this new and fruitful country, reacting already so much upon old Europe by its political institutions, would also prepare a perfect legislation for this part of the administration.

The second establishment of Mr. Fellenberg's institution, is an *Experimental Farm*, where portions of the soil are devoted, according to its suitableness, to a course of experiments. These portions of land are not more than a twentieth part of Mr. Fellenberg's landed property, and are variously located. He operates here indeed upon a sufficiently large scale fully to illustrate and secure the results. At the same time this scale is restricted enough, not to affect too much a regular proportion of revenue by those risks which are always connected with agricultural experiments. If experience has sufficiently proved the usefulness of a new practice, it is introduced in the model-farm, and employed as a regular means. All the results of these courses of experiments are so systematical, that it is easy to disengage the general principles from their local accessory application. In no other country has any thing like this been attempted. In agriculture there are very few questions completely decided; the field of discovery and improvement is vast—that of perfection immense. Mr. Fellenberg has only begun to lead the way. Whoever will imitate this useful example ought well to consider that the systematical connexion, that unites the series of trials in an experimental farm, must be strongly conceived and deeply combined. If the systematical experiments were to be confided to unskilful hands, the faults of the man might be mistaken for those of the science. Consequently the result would be, erroneous judgment, the inevitable effect of which is to excite prejudices by the very means by which it is wished to extirpate them. At this time there are no great number of agriculturists able to combine and to follow these experiments. —There are very good practical agriculturists who never come to rational agriculture. Men of distinguished talent and judgment unite not with it the positive spirit, which can appreciate the true causes and details of execution. The union of talents and qualities, which constitute the great agriculturist, is very rare, because at the time of Mr. Fellenberg there was, in no country, an agricultural education in its true sense, and this education will never completely succeed, if it guides not to the point where the head despises not the hand, nor the hand disdains the head.

A third establishment is a *Workshop for the manufacture of rural instruments.* This and the following, a *Workshop for perfecting rural mechanics*, are an incontestible proof of the great character of the founder of Hofwyl. He has procured himself the agricultural instruments of different nations. He has copied, if the aim appeared to be reached; he has modified the object, if it was only partly reached, and, if he could, use some principal idea. If a new and useful thought presented itself to his mind, he has executed after having invented. He never rejected without examination; the fame of *inventors* could never dazzle nor mislead him—difficulties excite, but never tire him; his mind possesses the greatest patience. The first of these workshops, fabricating only machines, the usefulness of which is established by experience, has for its object to apply all sorts of mechanical powers to agriculture; so that the same number of people and animals can produce the greatest quantity of labor; to do by mechanical means, with the greatest exactness, what man's hand executed irregularly; to give to the force employed the best possible direction, in order that no part of it be lost. This workshop amends what time and daily use have wasted in Mr. Fellenberg's establishment; it also supplies and furnishes the numerous requests of strangers. In this establishment the execution is every day made more perfect by the useful direction of the work, the increasing ability of the workmen, and the use of the best materials. The workshop for perfecting rural mechanics is connected with the other, but is entirely distinct from it; the most able workmen execute the new machines after foreign models, or the ideas and drawings of Mr. Fellenberg. In order to be positively applied in the agriculture of Hofwyl, experience ought to have incontestibly proved their usefulness. This workshop is for that of fabrication what the experimental farm is to that of the model farm. There is, consequently, the new example of a systematical course of mechanical experiments, which its author pursues with that spirit of perseverance by which he is characterised.

To this moment I have said nothing that properly appears to belong to education. The following will be more occupied with it, and I promise myself to prove, finally, that the different establishments have the most intimate connexion, and the greatest influence on one another.

First, the *School of Industry*, for poor boys, will occupy us. Mr. Fellenberg has long had to combat a strenuous opposition, but never have his opponents contested the usefulness of this school, which is proved by its results.—This school obtains a sort of unanimity of suffrages, and shows the spirit of the founder of Hofwyl in its greatest light.

Whoever has reflected upon the history of the last forty years, will understand how Mr. Fellenberg must be convinced of the unhappiness of the present generation, while thinking about the means of securing better the chance of the future generation; proportioning these means to the *reality* of his needs, he has been conducted to a series of thoughts, which in spite of their striking truths and justness, ought to find a head like that of Fellenberg's in order to produce such excellent fruits.

The new generation, says he, must have a new education, and men are far from feeling how it must be, if they are not persuaded that education should not be limited by instruction.

Education, gentlemen, ought to modify the two classes, which are the extremities of the social chain. Not to level society, but to make it happy, we must not propose to mingle these two classes, and less to confound them; but to appropriate them separately to their respective positions, and to prepare the means to be satisfied with this position. The government ought, therefore, to have the same solicitude for the higher and the poorer classes of society, who will have no other resemblance than in the application of the conservatory principle equal to all, to uphold in the mind the justness as well as the best religious and moral affections. The poor will acquire wealth and love of virtue by directing his hands to labor, and enobling his mind and heart. It is necessary to bring in harmony his reason with his needs, to facilitate by a forward exercise the success of labors, which, at the same time, ought to ensure his subsistence, and to produce his intellectual advancement.

Mr. Fellenberg, therefore, will make of the poor, enlightened and very virtuous agriculturists. In the school every thing is directed to this scope. It is the part of yourselves, gentlemen, who live in the sad reality of human affairs, and not in illusory speculations, to reflect upon this object, in order to obtain the conviction, that this was the *only* means by which to make his institution the focus, not only of European, but of true cosmopolitical liberalism. He has succeeded, gentlemen, let us rejoice in this conviction.

In this school poor children are admitted at the age of five years, and dismissed at that of twenty or twenty-one. Instruction, in a certain point of view, is continual in this school for the poor, and takes place at the same time that the hands are exercised.

In the midst of exterior occupations, every occasion is seized to form the pupil's judgment. Nothing escapes to this effect, and to forearm them against popular prejudices, by giving simple and exact notions of the different phenomena. Instruction is directed to the following objects: religion, practical agriculture, reading, writing, arithmetic, and a little elemental geometry, for land surveying, natural history, elementary music, (song, a stronger means of education than is generally admitted.) Education in this establishment of the poor, is directed in its general intention, to raise up the children in their proper condition, not to draw them out of it. But if in one or the other of the pupils, there were discovered the germs of higher talents, Mr. Fellenberg considered it always as a duty to bring him at his cost into the establishment, for the higher classes of society. If we desire that nothing of what nature gives with so prudent a parsimony, be lost to social utility, society ought to seize the man of the inferior classes with superior talents, and reserve him to the higher place due to him. Without this foresight this individual would be misplaced in the situation in which he is confined, whilst the place itself, destined for him by his moral superiority, would be vacant. Let society be convinced of the justness of this principle, and the times of incapacity and egotism, the golden age of the minions in high places will be over.—The efficacy of the means employed in the school of the poor in Hofwyl, called *Wehrly school*, after its worthy director, is the result of the goodness of principles, upon which rests the whole institution, and upon the fidelity of the teacher to conform himself after these principles. To have a just idea of the practice of this school, you have to remove every thought of resemblance betwixt the school of industry and the ordinary village schools; betwixt the teacher Wehrly, and the field-pedagogues, as they commonly are. He domineers not; he professes not; he is always with his pupils;—there is a continual care without void in their education. Wehrly is in nothing distinguished from them, neither in food nor in clothing, nor in occupation; he labors with them, and they ought to labor with him; and by a natural emulation they aspire to do as well as himself.—He, therefore, can have in every moment the influence of an educator. He shows them that he respects and loves all those labors which he requires from them, and this way certainly is the best to inspire them with respect and love. In the last eight years of my travels, I found some schools of Industry directed after Wehrly's model, with a success comparable to that of the school at Hofwyl. I saw only one terrible caricature in spite of the exertions of the founder, and that was the school of Industry at Harmony, in Indiana, directed by Mrs. Mary Duclos Fretageot, towards the ruin of morals and the destruction of every mean of enlightening poor boys, her pupils. I consider it a duty to stigmatise in this country an establishment, tending to spoil it of as many useful citizens, as there are pupils admitted; to stigmatise it on every occasion, where it can become useful to the United States, interested in the welfare of every citizen. I pledge myself at the same time to offer the proofs to every one, interested to know them.

The *school of poor girls* had a long while been projected. Now it exists. With respect to the difference of sexes, there is here done for females what already had been executed for the boys. Here Mr. Fellenberg has shown, how the poor girls can be withdrawn from a state of misery and want, more dangerous for this part of the human species than for the other. She will return to society adorned with all the virtues requisite for a good wife and mother; provided with all the useful knowledge and previous talents which constitute good house-keepers. There it is proved that upholding the greatest ability of the hand of these poor females, it would be possible to enable her to support herself by her own labor, and to pay the expense of her subsistence and education, in a manner that charging governments with no gratuitous sacrifices, she ought only to gratify society to have taken notice of her existence, and to have protected her. Society cannot do less for the mothers of their citizens.

Exterior exercises are necessary to men, if they will become robust defenders of their country. Nature has destined the fair sex to an interior life. She ought, therefore, to be devoted naturally and with preference to sedentary labor. The essentials relations of the two sexes are altered, if their natural vocations are changed, if women are condemned to harder work than their strength can support, and men to sedentary mechanical occupations in whom reason and force are consumed without upholding, because ability of the hand is for women the only condition of success.

Whoever, gentlemen, has studied the history of nations as a philosopher will have learned to appreciate the influence that the education of women and their condition in life have always had on the destinies of the human species; whoever has reflected upon the incidental circumstances of childhood, upon maternal tenderness, and the power of the first impressions, cannot disown, that good mothers alone educate good children. Cornelia, the mother of the Gracchi, was such a woman; but we find, likewise, that she was and would be nothing else but a patriotic *woman*—not an aspirant to *half-manhood.*

The seventh establishment of Hofwyl, is the *institution for the higher classes of society.*—The present century, and the close of the last, prove that the happiness of society rests upon the conservation of established order, upon a progressive, but more or less slow improvement of their institutions. Without this improvement the established order would soon cease to be in harmony with the real state of society. This tries in every momentous alteration, the consequences of the times, because the social body cannot escape the influence of events, which follow one another. If we have but a little humanity we will abhor those violent revolutions, put in action in a moment and by force, executed under popular ebullition, directed almost by a hypocritic ambition, and whose foundation is contempt of justice and property, whose means are to unbridle the vilest passions. If we are but a little reasonable and true, we cannot confound with those disastrous revolutions the insensible changes in every state, the product of time, progress of human spirit, subdivision of old and creation of new properties; of the successive alteration of all relations of the increasing propagation of knowledge—in one word, the effects of the influence of new discoveries, of the various motions of commerce, and the changing of the old relations among nations and governments. Scarcely do we find people with so enlarged a foresight and penetration, that they could discover the means of preventing and arresting violent revolutions, or direct the necessary changes in order to improve society.

These are Mr. Fellenberg's considerations, and those of every honest man. His establishment was founded in a stormy period, when the European revolution had *justly* attacked the higher classes of society. This was the bitter fruit of their incomplete education. These classes possessed, generally, not the superiority of knowledge by which they could soundly judge their position, and whereby alone they could obtain unity in their conduct. They had not fixed opinions, the standard of every party; they fomented numerous passions, when it was so important to have no passions at all;—they had neither principles nor character. The spirit of parlours had inspired respect for futilities and contempt for grave objects. These higher classes exist still in Europe, and I believe they will there still continue for a long while. But, doubtless, they will do so under the vital condition that their conventional superiority aids their moral superiority. But what will then be the result? That these higher classes of society will inspire patriotism in the lower classes. In our time, their superiority is not only altered, but skaken to its very foundation, and that of fortune is rapidly decreasing. This fact can explain the cause of the liberalism of a part of the aristocracy in Europe, and particularly in France.

These considerations have prevailed in founding this establishment at Hofwyl. I cannot here enter into a mass of details, or, I would say, why the study of the Grecian language preceded there that of the other languages, and why this order is essential to form the taste of the pupils, and to influence the rest of their literary labors. I would show the considerations which determined Mr. Fellenberg to carry very far the philological studies, which, well directed, contribute essentially in forming the judgment, and in studying logic in the only manner that does not allow us to forget it. I would then indicate, why in some studies the synthetical methods are used, whilst in others the analytical prevails. There, gentlemen, you would perceive a philosophical spirit in the distribution of the lessons, and in the succession of the labors too. It would be easy to explain in what manner music is an important part of education; and to show that Mr. Fellenberg knows the misuse that can be made of mathematics, admitting, f. e. that the precision of pure mathematics is the prototype of the art of reasoning; or if exaggerating this necessary study, imagination and taste are altered. But I would likewise not forget to say, that he acknowledges the usefulness of mathematics, that they are taught at Hofwyl in a complete manner, and that it is a great object to discern from their temper, character and disposition, whether it is useful to devote the pupils to the study of pure, or to retain them in the sphere of practical mathematics.

Speaking from some principal objects, I can sufficiently show, that Mr. Fellenberg's plan is wholly new, and that in the execution he is true to the idea: that the higher classes of society can be conducted to reason, taste and activity, only by upholding their intelligence by the most extended instruction.

I have often heard the question, whether public or private instruction is the best? Both have their peculiar advantages and inconveniences. That, gentlemen, is consistent with the nature of things; and it is idle to compare what cannot be compared. It would be afflicting to be obliged to choose amongst such different means, with the certainty of sacrificing advantages in every choice. Mr. Fellenberg sought to resolve this problem in a very different way, and you will confess, gentlemen, that this is the best. He has, *de facto*, united public and domestic education. He sees his pupils in every moment; they are his children. His sons associated among the other pupils (when I left Hofwyl) have received the same education, but never a care or a treatment that was not general to all pupils. They are now excellent assistants.

All the pupils live and eat with his family and the professors. There they begin to accustom themselves to the forms of society, and an adoptive tenderness allows them not to perceive that they are far from their homes. The pupils at Hofwyl are happy. See them in their labors, meals, and pastimes, and you will be convinced of this. A healthy and abundant diet, but absolutely no delicacies, and much exercise, are the hygiena of this establishment. Every face shows the good result of it. The gymnastics uphold the body, and tend to make healthy, agile, robust men; the military exercises prepare defenders for their country. Every pupil cultivates his little garden; a more extended ground is their common property, and they have formed, in order to cultivate it together, a little association, that has its rules and obligations. Every pupil learns, likewise, a mechanical art at his choice, and the numerous workshops at Hofwyl offer the necessary means.

According to the rules established by Mr. Fellenberg with the parents of the pupils, the greatest part were not dismissed before the age of eighteen years; they make one step from the institution into the world. It was, therefore, convenient to prepare them for it.—In this respect an interior constitution exists, which plan is very ingenious, whilst it is very simple. This represents to them, to a certain extent, the great society, a part of which they will become, and accustoms them to form their own opinions, to consult them before they act in consequence, to explain and to defend it, to discuss, to care, to pursue a common interest, and an economical administration. This constitution connects them with one another, and allows them to know each other's character and inclinations. A knowledge by which they act reciprocally, as instruments of the common education. The last period has proved in Europe, that spirit alone, independent of character, is very little and impotent in great circumstances. The scarcity of energetic and grave men gave reason to think that the preceding education was not calculated nor able to favor the upholding many true *men*, in the noblest sense of the word; men stronger by the greatness of their character, than eminent by the qualities of their spirit. To obtain a different result at Hofwyl, Mr. Fellenberg gives much time and care to the study of ancient and modern history, in order to engrave deeply in the heart the great truths taught by it. In the greatest number of establishments of this kind, the fame of which induces us to compare them with Hofwyl, there is much instruction, but very little or no education at all. At Mr. Fellenberg's, instruction is as extended as in other institutions; but at Hofwyl it is better from the mode of its direction. Every day instruction is there more perfected, but is only accessary to the scope of education.

I shall now speak of the *special institution for agriculture*, whose object is to teach theoretical agriculture in every respect, in all its parts to great proprietors, or those who will become so, in order to direct great properties with wisdom, ability, and perfect knowledge of cause. This establishment can be regarded as a supplement to the higher classes of society, where there is no question of agriculture.

The model-farm furnishes the special applications of the general theory, and ought to inspire a love for agriculture to the pupils. The professors of the large establishment give courses in this special institution, showing the application of their sciences to agriculture. In this establishment Mr. Fellenberg himself becomes a teacher. He gives a course of agriculture and rural mechanics. He has united the pupils, all of an age of more than twenty years, in the castle of Buchsee, a walk of ten minutes distance from Hofwyl, and a property of the state, which has ceded it temporarily to him. Their number is necessarily very limited, because there only those aspirants enter, who are pupils of the great establishment, and no strangers are admitted.

The *Normal School* is the ninth and last establishment of Hofwyl. That for the poor class of society offers a system of methods and useful proceedings, which ought to be studied. It would be desirable not to detach any thing from them in founding elsewhere an establishment like this. But where insurmountable obstacles are presented by local circumstances, to the true imitation of the school of Hofwyl—happy modifications of the already existing schools would be possible by introducing a part of the proceedings, and some of the methods of the Wehrly-school, provided the choice and the application be made with discernment. In order to contribute to an useful propagation, Mr. Fellenberg has re-united at Hofwyl, in the summer season, all the school-masters of the Swiss villages, who wished to take part. In this re-union he communicated himself in respect to the best means to make village schools subservient to education, instructing and bettering the state of the people. It is not easy, gentlemen, to imagine a surer way to propagate methods, whose example he shewed at the moment he delivered the doctrine. He wished to extend rapidly the benefit of better combined instruction. These re-unions had taken place during two years. But the unpopular government of the Canton of Berne judged it suitable to suspend the Normal school, as dangerous to an oligarchy willing to re-acquire the handsome privileges of the good old time. The good old time, nevertheless, came not back, the genius of the modern era proceeded, and for the last three years the Normal school has again opened at Hofwyl.

Gentlemen, I have still to explain the connexion of the different establishments amongst themselves and their reciprocal influence. It will not be necessary to inform you, what is plain enough, the connexion, f. e. of the experimental with the model-farm, of the workshop for perfecting and fabricating, and that of these four establishments with one another. Every one will also see the whole connexion between the rural establishments and the schools of the poor, who receive from them subsistence and labor; and that the Normal school can only exist near the School of Industry. There comparisons are within the reach of all minds, and prove how much all these establishments are united. There remains not one entirely insulated—not one is an out-work. The objects are divided elsewhere; in one point the occupation is directed to perfect the things, another to instruct and educate men. At Hofwyl there is likewise the question of perfection: there all is approximated, collected and united to operate together at the same time. There is the question to perfect men by things, and things by men. The great art to put in execution the deep thoughts of Mr. Fellenberg consisted in bringing the objects near without confounding them, to influence them in the necessary distance without distraction; and to reconcile the divisions of labor, that concentrates the attention upon one object. But some people will ask, what connexion exists between the model-farm and the institution of the higher classes of society?

Great proprietors, gentlemen, like agriculture, and know it both for their own and for the interest of society. The pupils of that establishment receive no notions of agriculture, but see an example, that induces them to like it, is always under their eyes, and inspires them with a wish to know it. The other establishments have so evident a connexion, that it would be unnecessary to explain. The school of the poor is entirely separated from the great institution, but it is under the eyes of the young men of the latter. It is not shown to them, but they see every moment what is done there. If it is true policy to teach the rich to love the poor, who in return will learn not to envy the rich, then the aspect of reconcilement existing at Hofwyl gives the conviction, that it would be desirable that these two educations would never be separated.

In the next lecture, gentlemen, I will have the honor to present to your judgment my thoughts concerning the application of Emanuel Fellenberg's system as that of a national education in the United States.

(Second lecture in our next.)

Some Observations made recently in Tunis, on the Broad Tail Sheep of that country.—*Their modus propagandi, &c. &c.*

To the Editor of the American Farmer:

The officers of the American Navy, have embraced every opportunity of introducing, at their own expense from abroad, whatever they have supposed would improve, or add variety to our existing stock of animals, fowls, vegetables, &c. &c.; amongst a variety of animals have been several males and females of the *broad tail sheep of Tunis.* But in every successive instance it has been found, that the tail of the ewe, in some cases eighteen inches wide, presented a physical barrier to copulation, which bid defiance to the most animated and persevering efforts of the male; and not a single instance is known, of the propagation of their race in this country, between individuals of full blood. It is somewhere mentioned by Mr. Jefferson, to whom some of these sheep were presented, that even the produce of a cross by the imported ram, on the common ewe of the country, when bred "in and in," up to seven eighths blood, could no longer have sexual access. It became then a very natural, and somewhat interesting problem: how has the race been kept up in the country, from which these animals have been imported? and to all my inquiries of officers of the navy, who had cruised in the Mediterranean, even of those who brought me these sheep at various times, no solution of the question was received. It was scarcely to be believed, that Providence, in its economy, had left any species of creation to depend upon extrinsic assistance in the very act most essential to their perpetuity; one, for the performance of which, the most uneducated nature is safely left alone, instinct being found an adequate instructor. Why of them alone, the most inoffensive of her creatures, should it not be said,

> "Nature to these without *profusion* kind,
> The proper organs, proper *powers* assigned?"

But in this instance; my correspondent, himself a gallant and observing man; has ascertained the fact in their native country, that the race of broad tail sheep of the full blood, if kept exclusively to themselves, and left unaided by the shepherd, in the season of procreation, would speedily *become extinct*, and disappear from the face of the earth, as the mammoth has done before them.

My *conjecture* then, on the subject, is this,—Every lover of good mutton, knows that in choosing a saddle, the size and fatness *of the tail* is particularly regarded as proof of excellence; it is near that, from which the most unpractised carver knows he is to extract the *bonne bouche;* and some who are esteemed good epicures, regard the tail itself as a delicious morsel, worthy of the highest dignitaries of state or church. It may then be supposed, that, on the principle that we cannot have too much of a good thing, shepherds have in ages past selected as breeders, individuals most redundant in the part so highly esteemed; and by keeping the same object constantly in view—the tail has been gradually and it may be said *artificially enlarged*, until the excrescence has become enormous in a degree not credible to those who have not seen it; and tails have thus been *formed* of such size, that the *body* is lost sight of—hence the exclamation of the farmer on first seeing one, "Lord, what a small sheep that tail has got to it!" There is no doubt that peculiarities of form, as well as of constitution, may be thus created by human management, which are afterwards *transmitted by nature*. The Bakewell sheep, is a *made* breed, so is the improved short horn cattle. In the case in hand, the part which has been made, has completely overspread the point of sexual contact. Whilst almost every thing provided for the comfort or the luxury of man may be improved by cultivation, experiment carried too far, pushes improvement into monstrosity, until nature seems to say to man, I will aid you no further: to your own hands I resign for its further propagation, the monstrous fruit of your own caprice.

Could the individuals first employed for the creation of *big tails*, have been endowed with the power assigned by Scripture to another patient and abused animal, they might,

Males and females,
Have shook their tails,
And then have sigh'd out,
And bleating cried out,
"Who finds not Providence, all good, all wise,
Alike in what it gives, and what *denies*?"

and this would only have been the greater miracle of the two, in this, that Balaam's ass did not speak in *rhyme*—but as one star is greater than another star in magnitude, so is one miracle greater than another miracle in glory; and after all, the greatness of all, is measured by their extravagance, as compared with all known facts, and all the laws of reason.

MY DEAR S. *September* 27, 1830.

On my arrival at Tunis, I was reminded of your injunction respecting the *modus propagandi* of the breed of broad tail sheep, and ascertained to my perfect satisfaction, that the operation of impregnation was only performed by the assistance of the hand of man. The tail of the female, (as well as that of the male,) is so enormously large and heavy, that she has no control over it. It hangs down behind in a mass of fat, which I have been assured sometimes amounts to one hundred pounds, and which, at the time of the junction of the two sexes is turned up over the back, and there held by the shepherd until coition is consummated.

The males are not allowed to run at large with the females; they are kept up with the same care that we keep our stud horses, and are only admitted to the females at the proper season for procreation. At the estate which I visited near Tunis, belonging to the Sapatrap, or seal bearer (alias Prime Minister,) and where these things were observed and explained; there were about twenty full grown male animals of the sheep kind secured by halters, with an abundance of barley laying before them, all fat, and in prime order for the services they have to perform, and so far as I was enabled to judge from their acts, and exhibitions of vigour, ready, and very able and desirous of performing them. I was assured that one operation alone, was at all times sufficient to insure the propagation of their species, bearing in mind that there is required a willingness on the part of the female, to induce her to reciprocate with the male. Without this, impregnation is by no means certain. It is easily discoverable when they are mutually consenting, and the moment should be seized upon to conjoin them.

As your inquiry was limited entirely to the mere mechanical operation of re-production, I have not extended my remarks beyond that single object—when I shall have made myself acquainted with the process of bringing forth and rearing, I shall do myself the pleasure of informing you on the subject, which is one highly interesting to the philosopher who delights in looking into the book of nature, and learning the various modes she has adopted to continue her works, as well as to the *gourmand*, and mankind in general. The broad tail of the sheep of Tunis affords a delicious repast to the epicure; the wool of the animal is long, soft, and silky, and furnishes that fabric so much resembling cashmere. Its skin is used in the various manufactures of fine leather, which are exported to Smyrna, Constantinople, and the Morea. Nothing can exceed the beauty of the manufacture of the caps of Tunis, made of the wool. In the manufacture of hats it would be invaluable.

I have endeavoured to treat this subject in a way least calculated to offend delicacy.

To the farmer, to the sheep breeder, no apology is necessary—they are too much in the habit of calling things by their proper names to take offence at any thing which is contained in the foregoing.

With great esteem, yours, truly, D. P.

HORTICULTURE.

A NEW BEAUTIFUL AND VALUABLE FRUIT,

Brought from Council Bluffs, and bearing in New England. Extract of a letter from J. Winship, Esq. to J. S. Skinner, Postmaster of Baltimore.

MY DEAR SIR: *Brighton, April* 2, 1831.

We have now growing in our grounds a tree ten feet high, the produce of the seed you were so kind as to send me eight years ago, called the Shephirdia or Silver Capp'd Buffalo Berry Tree. The ensuing autumn we shall have a quantity of them, and some of them are very much at your service. It is one of the greatest acquisitions of the fruit-bearing kind our country can produce: for beauty of foliage, fulness, goodness, and elegance of fruit, it is unrivalled by any new production; the fruit is about the size of the red Antwerp currant, much more rich to the taste, and forms one continued cluster of fruit on every branch and twig.

ASPARAGUS.

I think an error prevails in the method ordinarily adopted in cultivating this delicious vegetable. The object is to grow a long blanched stock; which, to be sure, is inviting to the superficial buyers—but at the table is found stringy, tough, and bitter. The roots must lie deep and the growth be comparatively slow; my roots have but a superficial covering of earth.—Their growth is early and rapid: and as I cut at the surface, the grass is tender, succulent and well flavored, and the whole of it eatable. I cover my beds in winter with manure, but rake it off and fork the ground in the spring. J. B.

Albany Nursery, Dec. 1830.

RURAL ECONOMY.

(From the New York Farmer.)

IMPROVED FARMING UTENSILS.

[The following is from the 1st. vol. of the Memoirs of the Board of Agriculture of New York.]

Roller.—A system of husbandry, such as has been described in the preceding essay, cannot be carried on to advantage with the ordinary plough and harrow: the profit of the row culture, depends essentially upon the labour-saving implements proper to it; and the general condition of the old improved lands of the state of New-York, warrants the immediate introduction of other implements than those in common use. Amongst these the roller is of the first importance, to make loose soils compact—to break the clods of clayey lands, and others which have been ploughed under unfavourable circumstances, as well as to roll seeded lands, intended for meadow and pasture, and winter crops in the spring of the year, which are partially hove up; indeed this instrument is essential to good husbandry, and is not expensive.

The body of the roller may be formed of a stout tree, and dressed down to a diameter of from twenty to thirty inches: the frame and perch should be formed of seasoned wood: if it is intended to use it with oxen, which is the best plan, the perch should be constructed with that view: any country blacksmith can make the gudgeons and iron work, and the whole expense need not exceed six dollars.

Harrows.—There are various descriptions of improved harrows, consisting of two or more harrows joined together by a crank or hinge. These instruments lap snug to the ground, when it is in rounded lands, where a single harrow would only act partially; this effect is remarkably produced by what is called the chain and screw harrow, where by lengthening the chain which crosses the two, a ridge may be completely stirred; and by securing the chain tight, it will act as one harrow on level ground. The efficacy of all harrows depends on the width of the bulls or bars, and weight and length of the teeth.

Horse Hoe.—This is a small plough with two expanding mould boards. Roots or corn, cultivated in rows, two and a half to three feet apart, and slices taken from the rows or ridgelets by a small dressing plough, are afterwards earthed up, by setting the horse hoe in the centre of the furrow, and returning the slices, after they have lain long enough there, to the ridgelets. When this operation is carefully done, hand hoeing is never wanted.

Drill Barrows.—Turnip seeds are sown with these implements, which no doubt will soon be accommodated to Indian corn. When the ridgelets are properly formed, and are without any obstructions, an industrious man will sow five acres a day with a drill barrow, which with the hand would certainly occupy him ten days. There are various sorts of them; some of them are preceded with a small roller and a horse to flatten the ridgelets.

Drill Ploughs.—These valuable instruments, are used in Great Britain upon a large scale, having a drill box attached to them, from which the wheat falls into the furrows, in a regular manner, as they are made.

The Paring Plough.—This instrument is used to pare the sods from the ground, preparatory to sacking and burning them. The paring plate is made of iron, laid with steel, about four inches wide, and from twelve to eighteen inches long: it is made to cut on the sides.

The Cultivator, or Scuffler, or Grubber.—This is a triangular instrument, formed of a cross bar and two expanding bars, which bolt into it at various distances. It has a small wheel at each angle; three flat shares on each side, resembling trowels, connected with the bars by means of an iron leg, and a seventh share constructed in the same manner at the nose and behind the front wheel. When a sod fallow has been once ploughed, and got tolerably mellow, the cultivator is introduced at its greatest expansion, and breaks the slices; it is contracted gradually in width as the sods are broken, until they are all racked to pieces. A man and a boy, with a stout team, it is said, will do as much effectual work in a day, as six ploughs: its property of contracting and expanding enables it to work land either in a course or fine state. Four oxen are a complete team for this instrument.

The Scarifier.—This is an instrument with two handles and two cross bars, at a moderate distance, containing each from ten to sixteen sharp coulters, and a beam fastened to the bars with a small gage wheel at the end. It is used much for the same purpose as the last, and is an excellent instrument for stirring a stubble preparatory to tares. Both these instruments may be reduced in size, and number of teeth, so as to accommodate them to the drill and row culture.

FRENCH MODE OF CLEANING HOGS.

Extract of a Letter from Master T. B. Skinner, dated Paris, Dec. 1831.

The French have a singular mode of cleaning their hogs. They place them, when killed, on some straw, set the straw on fire, and whilst it is burning, they brush the skin with a hard brush, made of brush wood—they then take straw in their hand, which being lighted, the hog again undergoes the same operation; then they throw on buckets of water, and finally scrape him over with a knife. It is not so cleanly, nor so quickly performed as our method of scalding, nor is the effluvia very agreeable. When I described to them our method of scalding, they liked it much better.

INSECTS IN FOWLS.

The following curious fact is mentioned by Mr. Ainsworth, in a communication on the cleanliness of animals.—(*Journ. Roy, Institution, No. II.*) "Walking one day along the shore of Holy island, off the coast of Northumberland, I disturbed an ash coloured sanderling (*Calidris islandica,* Steph.) which flew heedlessly, and as if injured. On shooting the bird, I found that it was covered with vermin, more especially about the head; so much so, that the poor thing must have fallen a victim to their tormenting ravages: on further examination, I found that it had lost one of its legs, so that it was from its incapability to rid itself of these insects, that their extraordinary increase was to be attributed. Poultry (the same naturalist remarks,) which run about in stony or paved yards, wear away the point of their claws by friction and digging, which render them unfit to penetrate their coating of feathers; they are, therefore, more covered with vermin, and in consequence more sickly than fowls from the country."

Threshing Machine and Corn Sheller.

Yesterday, we had an opportunity of seeing a new machine in operation, that was invented by the Messrs. Exalls of this city. It is remarkable for its simplicity. Its drum is larger than Clarke's—numerous iron teeth are driven into the drum, in rows meeting at an angle—and the drum, plays on an iron plate and on teeth below it. It was moved by a single mule walking on the inside of a large upright wheel. We do not profess to be any judges of such machines, but it appears to possess considerable power. The straw is directly applied to the drum.—The rye which we saw introduced into the machine appeared to be very well threshed out, without breaking much of the straw. It is impossible for us to estimate how many bushels of wheat it would get out in a day. By raising the drum from the plate below, it is converted into a corn sheller—and the most perfect one we have ever seen. The corn was poured in handfuls, and the grain was shelled very clean off the cobs. We can scarcely conceive of any machine better contrived for such a purpose. It seems also calculated to get out clover seed—this machine, divested of the horse machinery, could be made, we understand, for about $50.

These ingenious mechanics (very young men, the sons of the Mr. Exall who formerly made the larger threshing machines) are also engaged in making a wheat fan upon a new principle. The wheat passes through an iron cylinder, perforated with a great many holes of different diameters. It will be completed in a few days—and it is expected may be afforded for $20.

This spirit of mechanical enterprise and improvement ought to be encouraged. Cheaper and better machines for agricultural purposes contribute essentially to the economy and perfection of the work done on the farm—and add so much to the solid wealth of the nation.—*Richmond Compiler.*

MISCELLANEOUS.

CAROLINA; OR, THE PLANTER.

BY GEORGE OGILVIE.

(Continued from page 31.)

Once more, my Garden, come and bring along
Thy kind indulgence to an artless song;
Whilst, urg'd by thee, an inexperienc'd muse,
On trembling wings too bold a flight pursues!

Having, with searching eye, remark'd ere while,
Nature's wild landscape in each varying soil;
We sing what toils these varying soils demand,
Work of the mind, or labour of the hand;
To be by Ceres, or Pomona paid;
By joyous Bacchus, or th'Athenian maid;
With Grain nutricious, th'orchards mellow load,
The bleeding clusters of the social god,
The melting Olive, or what bids the loom
Contend with Flora in her vernal bloom.

Say! do our pupils' daring thoughts invade,
Yonder tall forest's venerable shade,
Where swelling tides o'er spacious valleys stray,
Hid from our almost vertic Phœbus' ray;
Where, whilst the lofty boughs her beams oppose,
Safe in the gloom, the Sylvian herds repose:
No huntsman there asserts his bloody claim,
But turns reluctant from the shelter'd game.

Close as the Macedonian phalanx stood
On Issus plain, within yon aged wood
So close the trees—whilst round each ample root
Thorns, Reeds, and Vines, in wild luxuriance shoot;
Nor only these obstruct th'invader's way,
Through the drear forest countless serpents stray;
Whose mingled hiss, and fascinating eyes,
Bid unknown fears in boldest bosoms rise.
As o'er the rest his scaly bulk he rears,
Like the Arch-fiend amongst his hellish peers,
Proud of his venum'd tusks, and rustling train,
Threat'ning, or instant death, or tort'ring pain;
Shaking the cymbols of a score of years,
The *Rattle* first assails your startled ears.
Next see the *Black Snake,* whose undaunted soul,
Dares e'en the Rattle's deathful rage control;
Scorning his safety to the shade to owe,
Darts from the covert to attack his foe.
In vain you grasp his throat t'escape from harm.
His twisting wreaths unnerve your palsy'd arm;
Alike in vain you trust to flight—behind
He quick pursues as flies the timid hind—
But should some weapon haply arm your hand,
Tho' but a vine branch, or more slender wand,
One well-aim'd stroke secures your safe retreat,
Uncoils and lays him gasping at your feet;
Then press his tumid head with active heel,
Else soon the foe returning strength shall feel;
Tho' now with gaping jaws he crawls along,
And impotently darts his forked tongue.
More dang'rous far, the Moccazine, nor sounds
The notes of war, nor quits the shelter'd bounds;
But coil'd in many a squalid fold, beneath
Some rotting log, prepares insidious death,
And at th'unguarded wand'rer darting flies,
Who scarcely feels the wound before he dies.

A thousand snakes of meaner note around,
Wreath on the trees, or glide along the ground;
Myriads of insects, bred in putrid air,
With stings envenom'd, drive you to despair;
From ev'ry pore your vital fluid drain,
At ev'ry pore infuse a racking bane.
And hark! from dark recesses of the wood,
How fierce the language of the *rav'nous brood!*
Loud screams the *Wild-cat, Wolves* yet louder howl,
And shaggy *Bears* like distant thunder growl;
Whilst *Cat-o-mountains,* with discordant roar,
Join the harsh grunting of the tusked boar.
Till circling danger ev'ry sense subdues
But fear, which to bewilder'd thought renews
The fabl'd phantoms of our childish age,
And demons in the shape of monsters rage.
From ev'ry hollow tree Medusa shakes,
Her visage horrid with surrounding snakes;
And Fate, tremendous with all mortal ills,
Or instant snatches, or by piece-meal kills;
With yellow jaundice, shiv'ring ague dwells,
Wild fever raves, or bloated dropsy swells;
Or through the brain quick shoots the solar ray,
Or slow consumption lingers in decay.

If still your ardent thirst for wealth invites,
There to raise altars to Agrarian rites;
Attend the Muse, preparing to relate
What cares, what toil, the bold attempt await.

First, of your destin'd field the *outlines* mark,
Not groping devious thro' the woodland dark;
But let the compass to the pole-star true,
Direct your progress, and assist your view;
As, from where higher land the swamp confines,
You seek the river with two par'llel lines,
Then let a third its winding course pursue,
Till intersected by the other two:
But where the sportive stream meand'ring makes
Projecting points, peninsulated necks,
Throw from your juster plan such scraps away,
Whose narrow bounds would not th' expense repay,
Should you command the wreathing mound t'explore,
Each frequent winding of the sedgy shore.
Lastly, as nature points, direct the drain
Where springy uplands skirt the marshy plain.

Thus mark'd the limits of a spacious field,
The gleaming axe your vig'rous lab'rers wield;
Beneath repeated strokes the Cypress groans;
The falling Oak his timeless fate bemoans;
In his vast bulk the Tupelo trusts in vain,
The tranchent steel divides his spungy grain,
Yet sever'd from the root that gave them birth,
His tow'ring honours still disdain the earth,
And aged vines, that neighb'ring trees uphold,
In screw-like wreaths his quiv'ring boughs infold,
Whilst streams of seeming anguish bathe his sides,
As limb from limb the woodman's arm divides.
Thus when some stag, t'escape pursuing hounds,
O'er lawns and downs with rapid fleetness bounds,
Stop'd by a hedge impervious in his way,
Awhile he rests, and holds the chase at bay,
Till, prompted by despair, he vainly tries,
With his last effort, o'er its tops to rise;
But springs, alas, too short—entangling thorns
Hold him suspended by his branchy horns;
Adown his cheeks so rolls the silent tear,
Whilst famish'd hounds his living members tear.

Nor should the grove yet undistinguish'd, feel
The heedless fury of the woodman's steel,
But let his hatchet all its force confine
To form an avenue along each line,
In which no tree, however priz'd, you save;
E'en reeds and vines must meet one common grave,
When all-consuming fire vast piles shall seize
Of limbs dissever'd, heap'd on parent trees.

This task accomplish'd, round your field you frame
A trench, two cubits wide, its depth the same,

By which a two-fold service is supply'd,
Th'ejected earth repels each *common* tide;
Whilst in the trench your future ramparts find,
A firmer base by strong ingraftment join'd.
As when some gard'ner bids a savage root
Bend with a mellower load of alien fruit,
Clasp'd in th' embraces of the wounded rind,
The stranger bud's adoptively combin'd.

Hence twice twelve feet, on either side, you delve
A ditch, full six feet deep, it wideness twelve—
And scarce, ere now, have you begun to prove
How hard the task, to subjugate the grove.

What tho' huge trees, laid prostrate by your hand,
Tow'ring in smoke, have dark'n'd half the land!
Still their tenacious roots their rights defend
And wide and deep these nether limbs extend;
In vain the hoe, in vain the spade is try'd,
In vain the mattock, would those roots divide;
The axe alone, with many a painful stroke
Unspurs the cypress, and *unprongs* the oak;
And slow the ditches parts, with endless toil,
The rooty fragments from th'adhesive soil.
The roots, high-pil'd, await consuming fires;
The mould to swell the rising bank retires;
Where youths and females to receive it stand,
And form the sloping dyke with plastic hand.
But lo! ere half the needful depth you gain,
Quick gushing streams o'erflow th'unfinished drain!
No more your lab'rers see their strokes to aim;
Chills shake their limbs, and cramps distort their frame;
Unless some sluice, or floodgates, valves allow
The waters, to their parent stream to flow;
Till rising tides, by Cynthia backwards roll'd,
With outward weight th'obedient gates refold.

Soon as the shelving ditch, and sloping mound,
On ev'ry side the leaguer'd grove surround,
To fell the destin'd wood your lab'rers throng,
Whose fate might thus be told in pagan song.
"The brandish'd axe the weeping Dryad sees,
And flies reluctant from her falling trees;
Whilst raging Vulcan, with unequal pace,
Pursues the Sylvan Nymph of Nereus' race.

Now on the river's oozy brink she stands,
Now clasps in woe, now suppliant lifts her hands;
Or frantic, from disorder'd ringlets tears
Her faded garlands, mix'd with auburn hairs.
Now to the Nereids of the flood she cries,
Now to Diana lifts her tearful eyes.
"Bright virgin Goddess! sister nymphs!" she said,
"Hear and protect a heav'n-descended maid,
Whose fate impending, impious men conspire,
Leagu'd with the unrelenting God of fire!
If e'er within my cool retreats you lay,
And bath'd inobvious to the God of day,
Lend! lend your aid, to save that lov'd abode
From hands profane, and th'all-consuming God!"
The suppliant nymph, the huntress Goddess hears,
And pitying Nereids mingle kindred tears.
Then seek united, the Cerulean plain,
To court his aid whose trident shakes the main,

Nor long in vain the queen of night implores;
With ready waves he swept his western shores.
Exulting Nereids in the front appear,
And stormy Eurus blusters in the rear,
Whilst whelming billows lead their monarch's way,
And far beyond their wonted limits stray;
Seeking the flaming wood with foaming rage,
Impatient with the Lemnean God t'engage;
Who safe behind the clay-built rampart stands,
In bold defiance of the wat'ry bands.
In vain each nymph, with lab'ring sinews, strove
To pour her urn, and quench the crackling grove;
In vain the Tritons heave their frothy waves;
Th' unshaken mound their bootless fury braves;
Defended by the warrior maid unseen,
Victorious Liber, and the Ear-crown'd Queen;
Who view the op'ning scene with fav'ring eyes,
Whence future tribute to their Fanes shall rise.
Great Jove himself th'immortal strife beholds,
And thus th'unerring rolls of fate unfolds.

"Know! Queen of Night, and Brother of the main,
Ye war," he said, "against these walls in vain:
For now the Fates and pow'rful gods agree
To guard that work of human industry.
But learn, ye heav'nly pow'rs, nymphs of the flood,
And you, fair Dryad of yon flaming wood,
A time shall come, not far remov'd by fate,
When trembling sacrilege shall feel your hate.
A pitying ear from him who rules the wind,
Your story'd wrongs, sad Sylvan Maid, shall find.
Mov'd by your tale, he opes his caverns dire,
Whence rushing blasts t'avenge your cause conspire.
His aid the wave-compelling Monarch joins,
And Cynthia's orb with ruddy vengeance shines.
I see the waves like snow-crown'd mountains rise,
Whose whit'ning summits emulate the skies,
As erst the giant sons of Terra strove
To shake the adamantine throne of Jove!"

Nor yet, tho' pow'rful banks the tides repel,
And Sol's bright rays the chilling damps exhale,
Scarce half subdu'd by man, doth the rude soil,
With plenteous crops, repay the planter's toil.
From massy roots luxuriant scions rise,
Beneath whose shade the gift of Ceres dies:
And oft betwixt, in pools, the waters lie,
When bursting clouds obscure the azure sky.
Or else those roots an equal flow withstand,
When parching heats the rivers aid demand,
Till frequent drains divide the level'd fields,
And the last stump to painful labour yields.

Scarce toil less arduous inland-swamps demand,
Where fetid water stagnates o'er the land;
And various Oaks, with Cypress mix'd, arise
In rival grandeur, tow'ring to the skies,
Battalion'd close, as where the vale receives
The river, struggling with recoiling waves.

With equal labour *here*, the ditch and mound
Must part the level from the rising ground.
By *this* the springs and upland floods are drain'd;
By that the needful wat'ry store retain'd;
And where, with near approach, the heights curtail
The level surface of the winding vale,
The pressive weight of copious reservoirs,
An ampler base and loftier mounds requires;
From whence, the water skilfully suppiy'd,
Rivals the merits of the refluent tide.

The mounds completed, loftier woods laid low,
The current stem'd, the stagnum taught to flow,
The smaller boughs and slender reeds consign'd
To greedy flame, that spreads before the wind;
The husbandman regards, with thought profound,
The vast dismember'd trunks that load the ground,
And deigns, from out the mighty mass to choose
A few of special worth, for rural use.
First the tall Cypress for the saw ordains,
Whose lasting wood thro' ages sound remains;
The taper ash, whose free and thready grain,
The riving wedge, with ease, divides in twain;
With oaks of smaller growth, his cares dispense,
To form the rail, and weave the wreathed fence.*
Whilst those of larger size, more priz'd he saves,
To guard his future crops in bended staves;
Or from their sides the bark astringent tears,
To tan the ample hides of slaughter'd steers.
But Liquidambers, that could lately vie
With all the grove to captivate the eye,
Stript of their honours in the gen'ral spoil,
He dooms the base of some ignoble pile;
With Tupilos and Maples, trees despis'd
By builders, but by sculpture's artists priz'd,
Who would the soft obedient wood, beneath
The magic chisel, till it seems to breathe—
With many a tree of high botanic fame,
Are all resign'd unpitying to the flame.

Nor yet the patient ox and gen'rous steed,
The armed plough thro' yielding furrows lead;
But trenches, winding as the roots oppose,
The busy lab'rer forms with sounding hoes;
For vain th'attempt—else well bestow'd the toil,
To wrench the stubborn tenants from the soil,
Till restless time, with unremitting hand,
Shall mix their mould'ring fragments with the land.

—To works like ours the Belgian owes the plain
That smiles with Ceres, where once rag'd the main;
And labour such to *Elb* and *Weser* gave
The rampir'd mead snatch'd from the northern wave.

Nor to Europa's active sons alone,
Those works of painful industry were known—
Whilst yet, thro' swamps, th'European savage stray'd,
Rude as the brute whose fur his limbs array'd;
The light of reason, like the light of day,
Gave the *then* favour'd east its earliest ray.—

Bless'd light of reason! that first led the hand
Of humanizing Man to till the land;
The ruthless *warrior* to the *ploughman* chang'd;
The olive planted where the *spoiler* rang'd;
Bade the bank'd marsh give riches to *Cathai*,
And Ganges thro' unwonted channels stray!
Then Indius, Tigris, and Euphrates own'd
The pow'r of man, whose arts their fury bound;
Then rose those works of matchless industry,
Which *Nilus*, time and barb'rous *Hordes* defy.
Tho' *now*, alas! since anarchy prevails,
Once more Chaldea's rivers waste her vales.—
Enough, my Muse! those wat'ry plains delight
Not long the eye! again direct thy flight
To gayer scenes; whose sloping fields require
No artful trench, to make the floods retire;
But limpid streams of murm'ring brooks are roll'd
'Twixt banks of fragrance, over sands of gold.
Delightful scenes! by nature sure design'd
For taste's quick eye, and fancy's sportive mind!

What if our sands are golden but to view?
We envy not the treasures of Peru!

Here o'er his hoard no lazy mizer bends,
But competence on industry attends.
Here sage philosophy shall love to dwell
With contemplation in the log-built cell;
And here, in future time, the western muse,
Shall paint the charms of nature which she views;
And, happy privilege, adorn her song
With ev'ry polish'd grace of Albion's tongue,
Whilst thro' the lay that noble frenzy glows,
Which poesy's bright dawn alone bestows,
Ere Rules fastidious free-born Genius tame,
And cold refinement damps the heav'nly flame.

Hark how the vales and echoing hills resound;
As the sharp axe inflicts the frequent wound,
Ere to its fate the upright poplar bends,
And crashing loud to trembling earth descends;
Or Liquidambers, thickly clump'd, that rise
Graceful with fragrant leaves and stately size;
Yet deem'd, tho' high in beauty's rank they stand,
By Farmers, the mere lumber of the land;
Nor has the Planter, or Mechanic, yet
Found for what use the worthless timber's fit,
To which ev'n *fire* denies the cheerful blaze,
But on its listless bulk reluctant preys;
Nor do its ashes salts nutricious yield,
But whiten with insipid flakes the field.

Not so, when oaks high pil'd receive the fire,
In golden pyramids hot flames aspire,
Yielding rich ashes, that *dispers'd* around,
To vegetation stimulate the ground;
But where by sluggards left, in heaps they lie,
The acrid salts all pow'r of growth defy.
With Liquidambers, Sycamours* demand
The vigorous efforts of the wood-man's hand;
Whose limbs gigantic like new forests rise,
When low on earth the prostrate parent lies.

(To be continued.)

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* A particular kind of fence commonly called worm fence.

* Button wood—there are no Sycamours in the U. S.

THE SEASON.

Now approaches "the most beautiful part of the year," when every field and every tree brings forth, and the forests resume their foliage.—The disciples of St. Tammany, call the month of May, the month of flowers, but since the hessian fly has taken up its long sojourn with us, it is known among agriculturists as the month of *quakes* and *fears;* for from the 25th of April, to the 15th or 20th of May, the great spring ravages of the hessian fly are committed.

We are now through the winter and have passed all the perils of that season not unhurt, but much worsted. The heaving lands, every where, have no crop at all on them—all porous lands that were seeded in wheat are much injured.—On the well dressed, tenacious lands, the crop looks flattering. It was not rationally to be expected that this could have been a great crop year of wheat—for when we consider the extraordinary wetness of the last autumn at seeding time the retarded period at which the wheat generally was put in—and the miserable condition of the lands to receive the crop, it was not to be expected that this could have been a productive year in wheat; and so it will turn out—particular farms may make a good crop—but generally, the crop cannot be abundant. It may be a good grass and Indian corn year, and probably will be—indeed the farmers stand greatly in need of a good crop of Indian corn, for corn has never been so scarce with us as it is now since the year eighteen hundred and seventeen, when it sold for eight and ten dollars a barrel. There will be but little corn sold from the Eastern Shore comparatively this spring or summer. An early and abundant crop, of green clover will relieve, in some degree, the wants of grain for stock—but bread must be high, for we shall not be able to spare one twentieth of our usual supply to others.—*Easton Gazette.*

The only remedy for all diseases, is to be above the fear of death.

THE FARMER.

Baltimore, Friday, April 15, 1831.

Improvement of Corn.—The Editor of the American Farmer, has been several years in the habit of improving corn by *crossing* different varieties, with decided advantage. If he has a variety with small ears, which he deems good in other respects, he plants it in the rows with another kind with large ears, that flowers at the same time; and, at the time of the tassels appearing, carefully cuts away the male flowers (or tassels) of the large eared kind. By this operation, large ears are produced of the small eared kind. There are some kinds of early corn, which, though excellent in other respects for green corn, are very much injured by the coloring matter of their red cobs. This he attempted to remedy last summer by transferring the corn from the red to the white cob in the same way, and he thinks with success. He planted some of the red cob Tuskarora,—which he thinks the best early green corn, in the rows with the largest eared white cob sugar corn he could find, about half and half. As the tassels of the sugar corn made their appearance, he carefully cut them away, leaving the whole to be supplied by the pollen from the tassels or male flowers, of the red cob Tuskarora. The result was, he had the Tuskarora corn on the white cob of the sugar corn, as he desired. From his experiments the Editor concludes, that any variety of corn may at pleasure, thus be transferred to the cob of any other variety that flowers at the same time; and that if a large eared kind can be found that flowers at the proper time, the smallest eared kind may be made to produce large ears by the above process. He has not extended his experiments to the improvement of the cob of field corn; but, has no doubt, that, by the same process, the thick cob of some kinds may be improved. Suppose the thick cob kind were planted in the row with some other that usually has a small cob, and the tassels of the latter cut off as above directed, would not the desired variety of corn be obtained on the small cob?

De Rustica will appear in the next number, as also the article from "A Subscriber," on hogs and pork.

With anticipations of the greatest utility to Agriculture, as connected with Education, we announce to our readers that Mr. F. A. Ismar, of the Fellenberg School at Hofwyl, (whose lectures lately delivered at Georgetown, D. C. we commence publishing in this number,) proposes to develope that system in all its practical branches which are adapted to the U. States, at Bolton farm, near Bristol, in Pennsylvania.

The following article from the founder of the School at Bolton, is copied from the Bucks county Intelligencer.

We publish the following article with pleasure.—We have no doubt it will be read with that degree of interest, which the important subject of education appears to excite. We hope the school at Bolton Farm, may flourish under the fostering care of Mr. Morris, and that public favor will be enlisted in its behalf.

(From the Register of Pennsylvania.)

FELLENBERG SCHOOL.

To the Editor of the Register:—

I particularly appreciate your kindness in sending me No. 14, vol. vi. of "the Register." Its whole contents are very interesting, and its views of the Fellenberg System of education, are correct, in estimating the difficulty of procuring qualified instructors in the theory and practice of agriculture and rural economies, without which, a just estimate cannot be made of the attainable excellence of the plan in its whole extent: the difficulty though admitted to be great, is not deemed insurmountable, and is expected to be supplied in due time at Bolton, where, in the interim, the classical institution, connected with useful rural exercises, is in successful operation.

I am pleased to see the intended introduction of the system in the state of Virginia also, on the farm of Richard K. Meade, near Winchester. Mr. Meade is well known throughout the United States, as a most intelligent, enterprising, and industrious farmer, his flock of sheep improved by his particular and patient attention for many years, has attained an almost unrivalled excellence, as well for the quality and quantity, as for the peculiar adaptation of its fleece to our manufactures. I have read in the Winchester Republican of the 17th of September, the proposed plan of his institution, which, although its exclusion of classical learning, will, in my opinion, limit its general utility, it will probably be not the less useful to that numerous portion of our citizens, whose course of instruction is restricted by circumstances, to a very few years.

In the Institution at Bolton, I think I can perceive evident indications of the importance of those impressions, which are made on the minds of boys, by a substitution of useful rural pursuits, and rational pleasures, for the rude, vulgar, and vicious propensities, produced by a familiarity with the scenes so constantly presented in city life.

Should the system proposed be introduced into Pennsylvania and Virginia, though on a small scale, and by individual exertion only, I have little doubt of its beneficial influence soon recommending it to our state and national governments, and finally produce a change in the character of our whole rural population.

In Pennsylvania, this portion of the people, it must be admitted, is deplorably ignorant, and is especially deficient in the doctrines, discipline, and habits, which can only be taught, or acquired in early life, so as to be any security for character in mature age.

The formation of good and regular habits in youth, and the preservation of pure imaginations, are perhaps, the most valuable parts in every system of education, and these are more likely to be produced, and confirmed, by the simplicity, and utility of rural pursuits, and associations, than by the artificial manners, the fashions, and the follies of city life. As a ship is the only school for the formation of sailors, so are fields and gardens, for forming the habits, and acquiring the knowledge necessary for a farmer, as well as the tastes and inclinations requisite for every individual whose intended residence, in whatsoever station, is the country. By an association of learned men at Hofwyl, Mr. Fellenberg has combined the advantages of city intelligence, with the leisure of the country, and its exemption from the interruptions to which all are subject in populous cities. This combination of talents and time is applied to the improvement of the mind, and the amelioration of the heart, surrounded by the magnificent scenery of Switzerland, with more effect than can be produced, amidst the tumult and distractions of general society, where every day, and almost every hour, produces some scene or excitement, unfavorable to intellectual and moral advancement.

I insert in a note* some references to publications explanatory of the system of Fellenberg, by writers of distinguished discernment, and of the highest attainments, which you may deem perhaps worth preserving in the Register, at this period of zeal and inquiry on the all important subject of education.

Your obedient servant. A. M.

To Mr. Smith,
Editor of the American Farmer:

Dear Sir,—I send you for distribution a box of wild rice, from Green Bay, which I have just received from our friend Jacob B. Garber, Esq. Will you do me the favour to accompany this notice with an abstract of what has been said on the subject of this grain, at page 116, vol. 11, and elsewhere. Hoping that it may prove valuable, as there suggested, to the Atlantic states, and with best wishes for increased patronage to my old Journal, which improves in your hands,

I remain yours, J. S. S.

Columbia, Pa. April 11, 1831.

Mr. J. S. Skinner, P. M.

Dear Sir,—As a trifling remuneration for the many favours you have conferred on me, and still do, by transmitting rare seeds, I now send you a small quantity of seeds, of the much sought after Zizania Aquatica, or Wild Rice—I have been enabled to do so through the politeness of Col. Stambaugh, Indian agent at Green Bay, and his friend Henry Carpenter, of Lancaster, Pa. Such men who enrich their country with plants useful to the human race, ought to be remembered by their country with grateful hearts, while the earth brings forth a plant.

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* Liste des Ecrits qui ont paru sur Hofwyl.

Les Lettres de M de Fellenberg a M. C. Pictet de Geneve. Bibliteque Britanneque des Mois. Novem. and Decem. 1807.

Lettres de M. le General Vial, Ambassadeur de France en Suisse avec M. C. Pictet sur le meme objet.

Lettre de M. Guateron a M. C. Pictet sur la fete celebree a Hofwyl le 22 Mars, 1807. Bibliotheque Britt. No. 292.

Coup d'œil de M. Gauteron sur l'influence morale qu'exercera l'establissement d'Hofwyl sur la masse du peuple.

Rapport presente a son M. l'Empereur Alexandre par S. E. le Cometo de Capo d'Istria sur Hofwyl. Octobr. 1814.

Rapport sur le meme objet par M. A. Rengger cidevant Ministre de l'Interieur de la Republique Helvertique.

Notice sur les establissements de Hofwyl par M. V. E. B. Crud. Quarterly Review, No. 38, for December 1818, and Edin. Review, No. LXI. Dec. 1818.

Vol. VI. 42.

I must request you to share the seeds with Mr. G. B. Smith, who has by your request kindly sent me some valuable seeds. If you have never seen any of it before, you will be much disappointed by its appearance, at least I was so,—I am unable to account for its ever having received the name of wild rice; it bears no resemblance to rice whatever, except growing in the water. Respectfully, yours, &c.

Jacob B. Garber.

The Editor of the American Farmer will take pleasure in distributing the wild rice, kindly presented by Mr. Skinner for that purpose. For a very interesting description of wild rice, the reader is referred to page 10, No. 2, of the present volume of the Farmer, and to the following article. We are fearful that this grain will not thrive in either southern climates or salt marshes; but it richly deserves a trial, and we hope those who can give the experiment a thorough trial will apply for it. We propose distributing it in parcels of half an ounce each; but any gentleman disposed to bestow extra attention upon it, and favour us with the result, may obtain one or two ounces—we have only about eight ounces.

WILD RICE.

We are indebted to Col. Stambaugh, Indian agent at Green Bay, for the following notice of this singular vegetable. Colonel Stambaugh has left with the editor a small quantity of this rice, which will be distributed to persons who may desire to experiment on its culture.—Would it not grow on the margin of the Delaware and Chesapeake canal?—*U. S. Tel.*

It is found in nearly all the streams and marshes north of the forty-second parallel of north latitude. I have not ascertained that it is peculiar to any particular kind of soil, but grows most luxuriously in still, sluggish streams, with bottoms having a proportion of sand and loam. Those who are best acquainted with its history at Green Bay, believe it to be a biennial plant, requiring the period of two years from the fall of the seed to bring it to maturity—but the Indians pronounce it to be an annual plant—the old chiefs, who are now with me, are firm in this belief, and I have no doubt of the correctness of their opinion. That it grows from the *seed* and not from the *root*, all appear to be perfectly satisfied. The stalk is from four to fifteen feet in length, depending upon the depth of the water, to which element, I believe, its growth is exclusively confined—shortest stocks, it is said, generally yield the most grain. I have seen it in great abundance, in water from three to ten feet deep. The Indians harvest their rice on Fox river and its tributary streams about the middle of September, and further *north*, proportionably earlier. In the 47th degree of north latitude it is ripe, when it is but shooting into heads at Green Bay, about two and a half degrees south of that point.

The mode pursued by the Indians in gathering their rice is quite diverting. Two or three of them take a canoe, and as one paddles it through the rice, the others hem the stalks into the canoe and beat off the grain with small sticks; in this way they collect their load in a few minutes. It grows so luxuriantly in Fox river, near the portage of the Ouisconsin, that it is sometimes difficult to find the channel for small boats, although it is a fine navigable stream. The portage between the Fox and Ouisconsin rivers is only about a mile and a quarter. Yet I believe there is not a stalk of rice to be found in the Ouisconsin. I have not heard this circumstance satisfactorily accounted for; the Fox river, you know, flows into the Lake, and the Ouisconsin into the Mississippi.

Prices Current in New York, April 9.

Beeswax, yellow 22 a 23. *Cotton*, New Orleans .10 a .12; Upland, .8½ a .10½; Alabama, .8½ a 11½. *Cotton Bagging*, Hemp, yd. 18 a 20; Flax 12½ a 16; *Flax*, American, 7 a 8.——*Flaxseed*, 7 bush. clean .—— a .—— *Flour*, N. York, bbl. 6.50 a 6.62; Canal 6.25 a 7.87½; Balt. Hwd. st. 6.75 a 6.87—; Rh'd. city mills 7.00 a—— country, 6.75 a 6.87½; Alexand'a, 6.75 a 6.87½; Fredericksburg 6.50 a ——; Petersg 6.50 a 6.62; Rye Flour, 3.87½ a 4 00; Indian Meal, per bbl. — a 3 75; per hhd. —— a 17.00 *Grain*, Wheat, North, 1.37 a 1.40; Vir. 1.35 a 1.37; Rye, North, 81 a —; Corn, Yel. Nor. — a 75; Barley, 80 a 81; Oats, South and North, .31 a .35; Peas, white, dry, 7 bu. 5. Beans, 7 bu. 7.00 a 8.00. *Provisions*, Beef, mess 8.50 a 9.25; prime 5.50 a 6.25; cargo 4.62½ a 5.00; Butter, N. York, 12½ a 16; shipping, 8 a 11; Lard, 7½. a .9; Pork, mess bbl. 14.00 a 14.75; prime 10.50 a 11.00.

WOOL WAREHOUSE.

LYMAN REED,

Commission Merchant, No. 195, Baltimore street,

Devotes particular attention to the sale of WOOL. Any consignments of the article forwarded to him for sale, can be disposed of immediately for CASH, at the highest market price.

CASH, and a fair price, will be paid for a few thousand pounds of *good wool*, (if offered immediately,) to supply orders now on hand.

Refer to Messrs. Cobb, Wyman & Co. Baltimore.

April 15.

AGRICULTURAL WAREHOUSE AND SEED STORE.

The subscriber would inform the public that he has the following articles in store for sale, all of the best materials, faithfully and well made, viz.

Gideon Davis' highly approved Patent Ploughs in all their variety—Davis' ploughs improved as more adapted to stiff soils. Bar Share and Coulter Ploughs improved. Substratum and Shovel Ploughs, Cultivators for Corn and Tobacco. His Patent Cylindrical Straw Cutters, superior to any other article of the kind in use, also Dutch Cutting Boxes, Wheat Fans, Threshing Machines, an assortment of Hoes, Shovels, and Spades, Hay and Manure Forks, Cast Steel Axes, Wove Wire, together with a variety of other implements of husbandry of the most approved kinds. Also a general assortment of the Messrs. Landreth's Garden Seeds, which are fresh, and of prime quality, Clover and other Grass Seeds. Fruit and ornamental Trees, Bulbus Roots, Flowers, &c. furnished to order. Likewise Peirson & Walker's superior Mule and Jenny Spindles. J. S. EASTMAN.

N. B. Plough castings kept constantly on hand to supply the place of those worn out, also all kinds of repairs done at short notice. J. S. E.

Extract from Mr. Hall's Letter to John S. Skinner.

"The straw cutter is here, and in operation, and a most *admirable machine it is*—the best I have ever seen in this or any other country. I am truly obliged to you for the selection of the machine, as well as to Mr. Eastman for his explanation of the mode of keeping it in order." CHAS. HENRY HALL, *New York.*

THE HIGH BRED IMPORTED IMPROVED DURHAM SHORT-HORNED BULL

BOLIVAR

Will be at Franklin, on the Franklin Turnpike road, about four miles from Baltimore—during the months of January, February, March and April next.

At Epsom farm, near Towsontown, seven and a half miles from Baltimore, on the York Turnpike road, during the months of May, June, July, and August next; and at Franklin, in September, October, November and December.

Terms.—Five dollars, to be sent with each cow.

This Bull was selected by Mr. Coates, the keeper of the Herd Book, without limitation of cost, and was highly valued by Colonel Powel, who considered him in form, points, and pedigree, equal to any animal to be had in Great Britain.

Bolivar is red and white, was bred by J. Whitaker, Esq. England. The singular neatness of his shoulders, the straightness of his back, the width of his loin, the smallness of his head, neck, and offal, the quickness of his gait, together with the well known character of his family as dairy stock, render him one of the most desirable males for improving our neat cattle that can in any country be found.

The committee on Neat Cattle at the exhibition of the Pennsylvania Agricultural Society, reported as their opinion, that Bolivar was "*the handsomest and best Bull that has ever been exhibited at any of our shows.*"

BALTIMORE PRICES CURRENT.

Baltimore Market.—There has been a trifling decline in the flour and grain market. In flour, however, there is little doing, owing to the scarcity of vessels for its transportation, and the unfavorable tenor of the last foreign news. We can hear of no sales of Howard street within a day or two past. The wagon price is $6. We have taken particular pains to obtain correct quotations of wool, having found our former quotations very much below the real value of the article. Wool growers are particularly referred to our rates which may now be relied on.

Tobacco.--Seconds, as in quality, 3.50 a 5.00; do. ground leaf, 5.00 a 9.00.—Crop, common, 3½ a 4.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 10.00; yellow and red, 8.00 a 14.00; yellow, 14.00 a 16.00.—Fine yellow, 16.00 a 20.00.—Virginia, 4.00. a 5.00.—Rappahannock, 3.00 a 4.00——Kentucky, 4.00 a 8.00. The inspections of the week comprise 479 hhds. Md.; 50 hhds. Ohio; and 2 hhds. North Carolina—total 539 hhds.

Flour—best white wheat family, $7.00 *a* 7.50—super. Howard-st. 6.25 *a* ——; city mills, 6.— a —; Susq. 6.25 *a* —; Corn Meal, bbl. 2.25; Grain, Md. red wheat, 1.20 *a* 1.25; white do. 1.30 *a* 1.35, Susq. 1.25 *a* 1.28-Corn, white, 65 *a* 70-yellow 65 *a* 70-Rye, 60 *a* 63. Oats, .33 *a* 34. Beans, 90 *a* 1.00-Peas, 50 *a* 60--Clover seed 5.00 *a* 5.50-Timothy, 2.00 *a* 2.50-Orchard Grass 1.50 *a* 1.75--Tall Meadow Oat Grass 2.75—Herd's, 75 *a* 1.00—Lucerne 30 *a* 37½ lb.—Barley, 62½—Flaxseed 1.25 *a* 1.30—Cotton, Va. 9 *a* 9½—Louisiana 10½ *a* 12½—Alab. 9 *a*. 11—Tenn..9 *a*. 10—N. Car..9 *a*. 10½—Upland 9½ *a* 10½—Whiskey, hhds 1st p 28 *a* —; in bbls 30 *a* 31——Wool, common, unwashed, lb .23 *a* .26——washed, .33 *a* .37-crossed, .37 *a* .42--three-quarter, .42 *a* .45--full do. .45 *a* .50, accord'g to qual.-Hemp Russia, ton, $250 *a* -; Country, dew-rotted, 6½. *a* 7c. lb.-water-rotted, .7 *a* 8c.—Fish, Shad, Susquehanna No. 1, bbl. — *a* —— do. trimmed, 7.00—North Carolina, No. 1 7.00—Herrings, Susquehanna No. 1, bbl.—— *a* —— Mackerel, No. 1, 6.37½, *a* 6.50--No. 2, 5.62 *a* 5.75-No. 3, 3.50-Feathers, 33 *a*-Plaster Paris, per ton, 4.25 *a* 4.37½, ground, 1.37½ *a* —-bbl.-Iron, gray pig for foundries per ton 30.00 *a* ——; high pig, for forges, per ton, 25.00 *a* 28.00; bar, Sus., per ton, 80.00 a 85.00.—Prime Beef on the hoof, 5.50 *a* 6.25—Oak wood, 3.00 *a* 3.25--Hickory, 4.50 *a* 4.75—Pine 2.00 *a* 2.25.

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5. Advertisements connected with any of the subjects of the American Farmer, inserted *once*, (seldom more) at one dollar per square.
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AGRICULTURE.

Emanuel Fellenberg's Institution, *at Hofwyl, in Switzerland, in two Lectures, delivered in Georgetown, D. C. by* F. A. Ismar.

SECOND LECTURE.

Ladies and Gentlemen:

You have heard the short description of the Fellenbergian Institution, at Hofwyl. Let us examine how to apply it in the United States of North America.

There is no nation in the world, which has a national education. In France, there was a time, when the necessity of such an education was felt, and the committee of public wealth, so terrible in the annals of the first part of the French revolution, issued the plan of a *Normal school.* The execution followed immediately the plan. The greatest men of France have been pupils of that school, that began to uphold means which had seemed impossible, in order to educate patriots and great citizens. Napoleon came to the height of power, and this *national* establishment was replaced by that of *his* lyceums and the polytechnique school, then preparing soldiers, devoted to the caprice of their master, the emperor. In the whole of Europe the necessity of education is felt, but the governments acted only parsimoniously for instruction. Europe is rich in learned men, poor in citizens who can say they have become patriots by their public education. In America, the old Spanish colonies have but changed the name—liberal institutions exist, liberty not; for the people have not been prepared for freedom by any education whatever. The administration is still in the same disorder; the authorities are still easily corrupted, and the clergy in a life of moral abjection, have still the same influence; police and justice exist only in the budget of finance with large sums, and national education is equal to public instruction—that is to say, less than *nothing*. I speak of what I saw and not by hearsay. In the United States, the Congress and the government mingle not with ecclesiastical affairs; but they occupy themselves, also, not with the education, and only with the instruction of the citizens; and in this concern the U. States have done more than any other nation. This public instruction is the most brilliant part of their administration and their political institutions, and yet how much remains to wish for? Education is the most essential of all political powers. But a widely extended country, and a sparse population, allow us not to proceed more rapidly. Therefore, patriotic citizens ought to co-operate with all their power to extend this foundation of national welfare, and, if I judge not erroneously, the good will exists so to do. Is it not possible to establish in the U. States, Fellenberg's system, as that of a national education? I am disposed to believe it is. But let us not blind ourselves by heedless fancies; let us dwell on the reality, and examine the modifications, which that system must undergo in order to produce in the U. States, the same results it has produced, and still continues to produce, in Europe. In this examination, I shall follow the order admitted in the first lecture.

Agriculture, gentlemen, is the only foundation of public wealth, and, consequently, a national education must proceed from that point. Nature herself has directed the inhabitants of this country to adopt it. But agriculture in the U. States is entirely different from that of Europe. Whoever would introduce the latter into this country, would make a ruinous calculation; and whoever would establish an institution similar to that of Hofwyl cannot succeed, if he begins not to take the plough in the hand, and to study practically the American agriculture. I have often heard the objection, that this agriculture is at present in its infancy, particularly in the West, and I am aware of that. But in order to improve it, gentlemen, it will be necessary to know all the advantages and disadvantages of what ought to be improved. After an exact knowledge of the existing deficiency, it will be possible to attempt improvements, and to bring the American agriculture where the European dwells, to the highest perfection.

The school of the indigent offers more matter of observation. In the Wehrly school at Hofwyl may be seen the prototype for the best education of the poor, and the agriculturist in general. The children are retained in a simple career, in which they can live comfortably, satisfied with themselves and their employments—a tendency whose high importance cannot be doubted in political concerns. Odious feelings and jealous dispositions are destroyed in the bud. In this course of instruction no useful knowledge is refused, but every useless information rigidly removed. Mr. Fellenberg thinks that there is enough to do in concentrating their education, in the formation of their hearts and character, in upholding the faculties of their understandings, and the abilities of their hands. That is the design at Hofwyl; the success of more than twenty years proves the excellency of the means. Mr. Fellenberg is, indeed, a phenomenon. He founded an establishment, (with few pecuniary sacrifices,) where the continual object is to change the fate of forty paupers. Mr. Fellenberg furnished a model that totally and partly could be copied. Every instructed proprietor, who has studied and understood the aim and the means of it, can found on his own property, a school for the poor, and exercise over it all the necessary attention to secure its success, provided he possesses force of character and energy of mind. The school for the poor at Hofwyl has certainly all the advantages of public education; but education and instruction have there some individuality, that can be done by Wehrly towards his pupils; because the course of education continues fifteen years, the circle of instruction is limited, and the number of pupils proportioned to the faculties of the instructor. Wehrly gives, generally, his instruction in form of little problems, to his younger brethren; he vies with them to find the first solution; he sounds his pupils till he is able to judge them. He departs from that knowledge of the individual in giving to every one the exact notion of the verities, which all ought to know. He chooses among the means which present themselves to his mind, such as he imagines the most proper to uphold the pupil's intellectual faculties, when receiving the instruction he wants. I request you, gentlemen, to observe, that I found my assertion "that Wehrly schools can be established in America," upon the fact, that there is at Hofwyl, no exclusive method, to give a special account of; and, nevertheless, there is in that school an excellent kind of proceeding, that a good mind can understand, and every intelligent man learn, if he will take the trouble to reflect and to study.—I believe firmly, that the great success at Hofwyl in education and instruction, is the result of not submitting an exclusive method, which, in morals, is not better than a specific for every bodily illness. But the manner of proceeding in education is not at all arbitrary. It seems to me, that the best method would be, that which is founded upon a few very evident principles, which admits into it individual modifications. Men have something, in common, that suits general principles, and every one has some peculiarity, offering a great number of exceptions to our discernment. In every institution of that description must exist a proportion between the principles and the institutor, in order to bring harmony into the whole, and to secure merited success

The foundation of a school after the model of Hofwyl, depends, also, upon the funds for its establishment;—and thus, gentlemen, we must consider, that at Mr. Fellenberg's, the necessity of uniting many people for the different employments, renders it necessary to separate all the young pupils from the other working-men, for the preservation of their innocence, from the bad habits of the latter. Therefore, it is impossible at Hofwyl to have what is easy in a different situation—that is to say, to employ the pupils in the most productive works fit for their age. In order to detach them, it has often been necessary, for the interest of their morals, to give them less productive labors, though those of more pecuniary advantages are not wanting in the institution. The school at Hofwyl is in the middle of a model-farm, that attracts a great number of strangers; near a great establishment for the higher and more favored classes of society; and not far from a village, where the rustic vanity of rich peasants would show contempt for the indigent of the school. These are reasons enough for much modification at Hofwyl, while in America they would be unneeded, inasmuch as the economy would suffer by them. And, notwithstanding all that, the school at Hofwyl finds in the works of the latter six years of education, a surplus in favor of the receipt, after deducting the expenses incurred for the pupils in the fifteen years. The accounts kept at Hofwyl, which I have very often examined, prove it clearly. After the twelve first years, Mr. Fellenberg had only advanced for the whole establishment $3,600, (12,000 francs of Switzerland.) The result has proved that his calculations were as correct as the act has been meritorious. I will try to explain this. The pupils have, after their education is finished, entire liberty; but, at the same time, they have the preference of all situations vacant at Hofwyl. Gratitude and affection for the place of their youth, retain most of them there, where they find the same pecuniary advantages as elsewhere. They begin to fill the numerous working-shops of Mr. Fellenberg. But you know yourselves, gentlemen, the difference between an able, active, conscientious workman, and the great number of those whose sole aim is the wages of the time employed.—He who has been himself an agriculturist or mechanic, will estimate how much Mr. Fellenberg gains in substituting for the latter description, the workmen educated by himself. The results of the Wehrly school, the effects of a complete education, such as is given there, produce painful reflections on the interior, hidden, and therefore useless, resources of men, who, from deficiency of education, frequently become dangerous to society.

In founding schools with the view of improving the poorer classes of society, all the principles of the Wehrly school and the consequent proceedings should be adopted, but we should avoid the inconveniences inseparable from disadvantages, which result from circumstances appertaining only to Hofwyl. Allow me now, gentlemen, to make open and candid observations concerning the greater part of your country, whose political institutions I must forever admire. It is here, as in every part of Europe, impossible to observe closely the mass of the people, without being struck with their gross and rude ignorance. It is difficult not to see, that a great number of men, respectable for their position in society, cover the voice of philanthropy; men who see some philosophical incendiary in the attempt to enlighten the people, and who proclaim ignorance as the foundation of their tranquility and happiness; who pretend to understand the usefulness of knowledge and the perils of ignorance, and yet who, from trivial, common place expressions, used by frantic, vain, half-instructed people, proclaim eternal war not only against the misuse of instruction, but against instruction itself. The great majority of the people in several states of this Union, are exactly of the opposite opinion. They have not yet regulated their ideas about the word of the day, "National Education;" they are often misled by despicable persons; but, gentlemen, although they know not how, they know what they will, and that step is immense. I came not here to make long speeches of moral philosophy, forgotten as soon as heard, but I wish to suggest the great necessity of extending the dominion of instruction, which by good national education will form good citizens, a great people, and no mob. Whatever may be the situation of man, it cannot be inconvenient to uphold the justness of his mind and the soft affections of religion and morality. All who adhere to these principles will find that the question, whether the people ought to be instructed, or maintained in an artificial ignorance, changes entirely. It will be more an object to determine with precision, what knowledge is useful to the people. We have already many notions about the kind of instruction they want. The only one that remains is the union of philanthropy and fact; and if they succeed they will have done that in which the philanthropists of speculation failed—an excellent calculation as proprietors and men of business.

I have yet to speak about the modifications of the establishment for the higher classes of society; for the Normal school, I think would be admitted as it is, provided there is a Normal teacher, in friendly relation with the school masters near his establishment. I repeat it, gentlemen, that education is the aim, and instruction only an accessory of it. The application of that principle has been made at Hofwyl according to time and country. In the centre of a confederation of twenty-two little states, which all together have not the extent of *one* of the states of this Union; in the bosom of a republic that passed through a revolution which proved the more terrible as it was directed against old *republican* prejudices; against a proud and rich aristocracy, although they did not oppress the people by taxes and vexations; in a republic surrounded by monarchial governments which proved more inimical, as, after the peace, Switzerland was united by a concord and a national spirit; which could only increase the moral and physical power of a military nation, free though poor, in its inaccessible mountains from their eternal ice and snows. This situation certainly was not the most favorable for the foundation of an establishment whence a *true* liberal education should proceed to partly monarchical, partly despotical, Europe. Mr. Fellenberg therefore sacrificed the vanity of professing his principles and opinions in the market places for their application, for the advantage of the people. Mr. Fellenberg is a liberal man in action, and has nothing common with the mere liberals of words. In Europe, gentlemen, and in every part of the world, the greatest part of the little sums devoted to public instruction fall to superior establishments, Universities, Atheneums, which certainly are not so frequently necessary as the inferior schools; and it is unhappily true, that, generally speaking, instruction presents a reversed pyramid, whose feeble point is called upon to bear the larger base which insecurely remains in the air. The nonsense of the school covers reason with its ruins—and you find in Europe a great number of very learned, but I cannot say of very reasonable men. The consideration of these facts guided Mr. Fellenberg; but he understood likewise, that Providence has sent the genius of light over the world, and that obscuration and ignorance must disappear in spite of every thing that is done to perpetuate them. The period is over, when an individual was thought a great man because he could make speeches of two hours over—nothing. But let us go to our principal object and examine how the Fellenbergian system can be applied in this country.

Gentlemen, the difference of a higher and a lower class of society exists here not in name, but the more in fact. There is a rich and a poor class. Pecuniary means allow the rich man to give his children quite a different education from that of the poor. Nothing is wrong in that. But every education prepares for the state of society, which in the United States is not only composed of freemen, but also of men of equal rights. Therefore it is important to bring closely the rich to the poor, in order to give both such an education, that they become equally good citizens; that the talents of the poor be not hid, that he may be placed in a situation to serve his country in the highest place assigned to him by his upheld talents and merits. It is the same with the rich, who must be taught to love and respect the poor, who have not the same fortune, for which the rich are indebted entirely to hazard: for the poor are their equals in every other concern. The principles are the same, and the system of Hofwyl needs therefore but little modification. If I was at the head of such an establishment, I should admit only the necessary and generally useful acquirements. Ancient languages should therefore be taught only by the request of the parents and after the same rules as at Hofwyl. But the study of natural history would have a great share. It is a science of facts, which contributes more than all others to uphold intelligence, and in a manner worthy of observation. There should not be given too great an importance to the number of facts, with which the memory is charged in the course of the education; but far more to the choice of the facts. Natural history is the best means to uphold in mankind the natural inclination for observation. There is no danger in making use of this means with children, whilst there would be when directing them too soon to the social institutions. There is no science more profoundly moral than natural history; for there is none, that gratifies so innocently the insatiable curiosity of the human species; that presents so many objects of religious sentiment and just judgment. It is no question here about the speculative science, not about Buffonists, Saussurians, Vulcanists, Neptunians, &c. The natural history which I speak of here, is a science of facts—it upholds the spirit of observation—it teaches us to classify ideas. Instead of wasting, f. e. several weeks in the description of the Hippopotamus, which can be given in a few minutes, there will be more occupation about the horse, the ox, and the domestic fowls, considered in the state of health and illness. All other instruction must be accessory; for the taste and the talents of the pupil decide, if he can enter the sanctuary of the science. There would likewise be an inconvenience to continue that study without relaxation. In the course of a complete instruction there are periods, when the pupils must work in severe, dry and abstract sciences, which, nevertheless, are indispensable. But natural history is easy and agreeable; it has charms which are alluring. Yet it disposes the imagination to repel the acquisition of knowledge, more difficult to acquire and less agreeable both in the study and in its result. There must be intervals in a course of instruction, when we should suspend the study of natural history, useful as it is, in order not to injure by the contrast other studies of different utility and another degree of interest.

The study of mathematics is another basis of this system of education. Mathematics, gentlemen, is the most useful science and perhaps the most necessary of all. It must have one of the first places, but the instructor must not forget that in attending to the sciences, which we study, we are in one of the three following situations, and that he ought to modify that of mathematics after the pupil shows sufficient talents either for one or the other. First we are below this science, and only able to acquire it so as to discover its merits and to desire to go deeper into it, which is the case with all the young men in the course of their education.—Then the science forms and exercises our reason—it commands our attention, and influences our judgment. Second, our mind is riper and is on a level with the science. Then we possess, we enjoy, we judge it, and it cannot more influence our manner of thinking, which is already fixed. Third, we are above the science, it gratifies us no more because it offers no farther satisfaction to us. Then it is unavoidable to abandon it with disgust, or we influence it and change its face, in extending its dominions by new discoveries. But this last case is very rare; for it realizes itself only with men of genius, full of the spirit of invention. Mathematics is one of the sciences, which frequently exercise the greatest power over the fickle brain of youth, and rectify their reasoning;—but in other cases they falsify the judgment.—This people wish to see proved every thing like a theorem of geometry; they repel the verities of taste and feeling; their imagination is dead for literature and arts, now worthless for them. Such dispositions exhibit the disuse of mathematics, and show that it is requisite to detach the pupil from that science. At a later period he will return to it with more success, when his reason has acquired by other studies power enough to understand the absurdity of applying only one manner of reasoning to objects of various character.

Let us now proceed to the study of history. In a complete course of education no one will contest the importance of historical studies.—This study, gentlemen, ought to begin very early. The history of the times which are most remote from us, has a peculiar charm, which the talent of the greatest historian cannot communicate to that of modern times.—The tales of mythology have analogy with the natural taste of infancy; heroic centuries are better for a more advanced childhood, when it is useful to move the heart, and to excite the imagination; and these impressions being the sources of pleasure and interest, for which the pupil seeks them, become the reward for the curiosity of a youthful age. It is certain that he vanquishes more easily in this way the sterility of the first studies of languages. The history of the first age is most simple, the historic tales become more complicated as we advance to modern ages. Ancient history presents a patriotic interest, which subsequent times possess only in certain periods and in few nations; an interest that creates generous feelings, and makes them more lasting than is generally supposed. History is an antecedent for experience in society, where, without it, young men are exposed to the cruel alternative, either of not acquiring it by observation, because they must have a false view through the coloring of passions; or by a certainly not very common penetration of acquiring that experience, perhaps after irreparable faults, which reflection during the course of education would have spared him. The study of history compels to reflection, and exercises the reasoning, by obliging the child to observe a great number of individualities. In a public education, his relation with fellow pupils and teachers presents a part of this observation. and it will always require the greatest ability of the institutor to organise these relations. But this observation can only be completed by the study of history, which embraces the whole life of celebrated individuals, and revives a multitude of deceased, to show their characters in all their nudity.—The immense extension of history finally presents us all possible combinations of human qualities, and an uninterrupted chain of examples, which closes its opposite extremities with the hideous picture of vices, and the most perfect model of virtue, that we can imitate.

Gentlemen, I cannot often enough repeat, that all education prepares for the state of society, in which the pupil ought to occupy a place. Every one finds there a peculiar destination, and for some that destination will influence that of others. All need, therefore, to know the social institutions, all must know, how these institutions constitute the collections of individuals called nations; to see the influence which their particular character, (the result of the whole of their circumstances,) that determines their conduct, and by this their fate, has over the people. Without history, this learning would become impossible. It alone can tell us how nations second their circumstances, or corrupt the favorable advantages, the result of the casual concourse of events—how they brave adversity, disarm bad fortune, survive great catastrophes; in one word, how nations make their own destiny. It would be easy to show the usefulness of applying the historical studies to objects, which, at first, seem to be strange to them. But the passionate politics of the day ought to be always strange to the oral instruction of history. Neither indifference, nor neutrality in political opinions, have produced this observation. Gentlemen, I am not at all a stranger to political opinions, and my own are entirely fixed. But I believe that this observation is common to all countries and all times; for accessory distractions divert the attention from the principal object. The circle of education and instruction is immense, and the time consecrated to them very limited. It is wise to have intervals for rest—not for distraction, and of all these, that of the daily politics would be the most unsuitable. How foolish to inspire or command political opinions!—If we have an aim in that concern, there exists only one way to accomplish it: by upholding in the pupil a justness of spirit, by all the combinations of education and instruction. So they will become able to judge soundly political opinions, when they will be called upon to know and to discuss them in the world. Conclude not, gentlemen, that I acknowledge no political opinion preferable to others; that I consider all as indifferent hypotheses, among which every one may choose after his own caprice. No, sirs. But I have the conviction, that the occupation with political questions ought to begin as late as possible, for they are naturally very complicated; great knowledge is required in order to judge them. There needs, at last, some experience of the world and mankind, beyond that acquired by instruction. I have no faith in the stability of commanded or inspired opinions. Observation shows me only, the solidity of those which were the result of personal conviction. And indeed with the exception of a few general verities, there are no absolute political truths. A great maturity of mind and reason can alone produce a sound judgment of this kind, and nothing is easier to break and vary than opinions blindly adopted after the faith of another. Only one political virtue ought to be inculcated in such an establishment, and that is patriotism, the love of the *whole* country, the *whole* people.

I have explained myself very largely over these three objects, for I consider them as the basis of instruction. All other studies arrange themselves in these three classes, as auxiliaries or dependents of the one, or the other, or of all three together. The languages are the principal auxiliaries; for their utility in public life is incalculable. Ancient languages belong to the learned classes, already more than numerous in your country; the modern must occupy a principal place. The greatest advantage will be in the use made of them in practical life; for America is a resort for all nations, but principally the English, French, Spaniards and Germans. Geography, natural philosophy, chemistry, introduction to philosophy, are studies dependent from the three first indicated. Add drawing, music, gymnastic and military exercises. Instrumental music must be partial, but vocal music general, if there is no organic impediment. Talent and disposition of the pupil ought to decide the time he must devote to drawing.

It will seem singular, that I have not yet mentioned any thing about religion. A few words will suffice. You may hear there preachers of every doctrine, as soon as they choose to submit to the rules of propriety, to preach nothing that endangers the morals of the pupils. Tolerance is at Hofwyl not the work of religious indifference, but of the spirit of the gospel. There are no educated fanatics, neither are there unbelievers. The only care taken is, that no prejudice and superstition, under any form, may be inculcated by the preachers of the different sects.

Before I conclude, gentlemen, I must speak of a question often heard in the United States, the country of liberty and liberalism by preference. The examination is intimately connected with my object.

Progress of the human mind! Progress of knowledge, of light! These are expressions often pronounced, but rarely with a fixed idea of their signification. If only one man of genius adds something to the empire of human intelligence, then we have already the progress of the human mind. The human species inherits the progress, that is made by individuals of genius. Every man not being able to accept such inheritance, the more narrow relations of the nations, vicinity and parentage cannot determine what man may transmit it to posterity.

With the progress of knowledge and of light it is quite different. It supposes a more or less general diffusion of human knowledge in the majority of a nation. The effect is not reciprocal; the progress of knowledge reacts not necessarily upon the human mind. It can be stationary, and yet knowledge proceed; with one word the progress of human mind is the increasing of knowledge acquired by the whole human family abstractly considered; and the progress of knowledge and light is the distribution, the augmenting diffusion of knowledge and its extension among a greater number of individuals.

No one appears to care about the progress of human mind—a great inconsequence, but general among those who fear the progress of knowledge. Many persons advise seriously to prevent its propagation; and this idea, how ridiculous and impossible to perform it may be, is now fashionable among certain people. Knowledge is an excellent thing, and I understand not, why they would proscribe it, if it was possible to do so. But there can be the abuse of it, as of every thing else—ask the history of all times and all countries. Would you, gentlemen, proscribe the use of fire, because it burns the inattentive instead of warming him? No! No proscription of knowledge, no impediment to its propagation; but let us treat and regulate its use; discredit, and if necessary, repress its abuse. An education strongly and morally combined will teach that to future generations; when religion and morals will not more be confounded with form and hypocrisy. Then men of sound heads and true hearts will do it by this very knowledge itself.

De Rustica, No. II.

ON HORIZONTAL PLOUGHING.

Mr. Smith:

Ploughing on the level was first practised in this country nearly forty years ago, being introduced by Thomas Mann Randolph, afterwards Governor of Virginia, of which an account was given by his father-in-law Thomas Jefferson, in a letter to George W. Jeffreys, author of the volume of excellent Agricultural Essays, published some years ago by Joseph Gales, at Raleigh. This mode of ploughing was first adopted in Albemarle, and is now general in all the contiguous parts of Virginia, and is not common elsewhere, though the practice is slowly extending itself. Not long before the death of Governor Randolph, the Agricultural Society of Albemarle, voted him a gold medal in testimony of the value of his discovery. It is remarkable, that the only precise instructions we have on the subject, is the letter of Mr. Jefferson, just mentioned. To what is so clear, as far as it goes, others may be unwilling to exhibit any thing that will be subjected to a comparison in endeavouring to supply the deficiency. In this account, the rafter-level is the instrument used to find the horizontal line—a more common one now is the cross, adjusted by a line and plummet, and sighted along the upper bar to sticks of the same height, which are moved and arranged along the field. Once laying off will be sufficient for a great number of years, perhaps forever, if the mode of ploughing I have recommended in my former paper is observed. This method deserves all the encomiums Mr. Jefferson has bestowed upon it, and all the honors awarded to Mr. Randolph. It has, as Mr. J. truly observes, been the salvation of the lands of Albemarle, and the country around, and is destined, I have no doubt, to confer its benefits on every hilly country in which the spirit of improvement shall find its way.

Not with any view to detract from the well merited reputation of Mr. Randolph, which the fact I am about to mention does not, but with a view to excite inquiry, and particularly to promote a search for old and forgotten knowledge, I will mention that the practice of horizontal ploughing did not wholly originate with Mr. Randolph. It is spoken of by Columella, who flourished in the reign of Tiberius Cæsar, and by several modern writers, by Jethro Tull, the father of English husbandry, in the time of Queen Anne, (who was a subscriber to his book,) and at the end of the last century, by Erasmus Darwin, in his beautiful work, "Phytologia," which first gave the Philosophy of Agriculture.

Columella, on Agriculture, book ii. chap. iv. says, "In ploughing it must be especially observed, that the furrow be always drawn across the hill; for by this method the difficulty arising from the acclivity of the ground is surmounted and broken, and the labour, both of men and cattle, is commodiously lessened."

Tull, Horse Hoeing Husbandry, chap. xviii. says, "many hundred acres of good land, and many a good horse are spoiled, in ploughing against the hill, and against reason."

I cannot quote Darwin's words, as I have not now access to his book, but I remember his ideas. His object in horizontal ploughing was to arrest and carry off the superfluous water of the hills, an object never desirable or necessary in this country, so far as my observation has extended, but which, from Darwin's peculiar theory of the origin of springs, I infer is commonly or often the case in England—but then he proposes to accomplish his object by furrows, not exactly horizontal, but inclining so much as to carry off the water gently, in order to save the sides and bottoms of the hills from a repletion of moisture.

The advantages of horizontal ploughing, with us are, 1. It preserves all the water that falls in rain to nourish the roots of the plants. 2. It lessens the labour of teams and ploughmen. 3. It enables you to do better work, and 4. It prevents manure, decaying vegetables, and top soil, from being washed away.

Several circumstances must combine to make this ploughing advantageous to the full extent of its capabilities.

The water furrows must be capacious and the beds mellowed deeply to enable both to hold a great deal of water. I have seen one instance of a field swept away in consequence of shallow ploughing upon a hard bed of clay that was impervious to moisture.

There are some soils and situations where it is utterly vain to attempt to retain all the water that falls, and prevent a break. As, 1. Where the hill is very steep when the highest furrow that could be thrown would only bring the surface to a level incapable of holding water, and this difficulty is increased in proportion to the extent of the declivity. 2. Where there exists an inequality of surface in consequence of former washes and breaks; and 3. When combined with either of the foregoing, the soil, from its own nature, or the absence of vegetable fibre, is deficient in powers of cohesion.

A remedy for these evils has been provided by Mr. Skipwith, who inherits and cultivates the extensive and well improved estate of the late Sir Peyton Skipwith, on the left bank of the Roanoke. It is to carry along at certain distances of from 20 to 50 or 100 yards asunder, ditches, of very moderate declination to some lateral drain. The furrows correspond with these ditches if the hill is very steep, and other circumstances are unfavorable; but if admissible, the furrows are level. This is found very efficient, and the process is simple and unexpensive.

Tull, every where distinguished by his *strong splash of common sense,* (as Dr. Johnson would term it,) in his remarks upon the difficulty of having plans executed according to order, notices the odds between saying to the labourers, "go you, and do it," and "come, let *us* do it." It is hard to prevail on those who are resolved not to be convinced; and what is not sanctioned by precedent or the judgment of the operator will be illy performed. In a country like this, where every thing is quietly submitted to overseers and negroes, and little is left to the owner's exertions and enterprize, it requires no little moral courage and talent for command to make such a considerable innovation upon the customs of a farm and neighbourhood as to introduce horizontal ploughing. A neighbour of mine once sent his overseer to Albemarle to examine and report upon this new and much talked-of practice. He might as well have sent his horse. There is a state and condition of ignorance firmly set against the introduction of every new idea. "Incredulity," says the old proverb, "is the wit of fools." Tull experienced all these difficulties in introducing his drill husbandry. "A gentleman," says he, "who consults his bailiff about entering upon a new scheme of husbandry, is likely to have about the same encouragement as a papist, having a mind to turn protestant would have, by asking the opinion of his confessor." I mention all this, not by way of discouragement, but to stimulate to perseverance, by showing the commonness of these difficulties. I have experienced them as well as others. Honest old Cæsar, my ploughman, protested firmly against my *horrid blunder-sort of ploughing*, as he termed it; and my overseer condemned the whole quite as positively. He had never seen any such *crooked business in old Virginia*, and therefore it must be wrong. I finally, by dint of authority carried my point, but it required a firmness little less than that which put down the Polignac conspiracy. De Rustica.

ON THE SUGAR CULTURE.

Extract of a letter from a gentleman in Louisiana to Mr. Senator Johnston.

"I have read with attention your letter to the Secretary of the Treasury, on the subject of sugar. It contains a clear view of the matter. There are, however, some errors in point of fact, which it is important should be rectified. You state for example, that we take annually 50,000 barrels of corn. This is entirely a mistake, the quantity is much nearer 500,000. I am confident it cannot be less.

"The number of slaves is underrated—there are more than 35,000; and all the working hands on the plantations do not average 4 hhds.

"The number of horses I think too few. In the years 1829-30, the account taken in the Indian nation, the number that passed were 9780, more than half came to the sugar region. They do not last seven years, five from the ages at which they arrive is nearer the truth.

"A steam mill, kettles, &c. cost on an average $6000. There are 725 plantations, there are only 100 of these supplied with steam engines. The agitation of this question produces a most unfavourable effect; it retards the progress of improvement, and damps the ardor of enterprise—few slaves will be bought for sugar this year. Perhaps not twenty engines will be put up; a much greater quantity of corn will be planted; Virginia and Maryland, and all the West, will feel the effect of this discussion. In five years, if this subject had been left untouched, we should have doubled the quantity of sugar, as well as the amount of our purchases from the other states, and the price would have been gradually reduced to four cents.

"We formerly made our own provisions, but it was found better for all parties to exchange with the West. They may get sugar a little cheaper from the Islands, but with what will they buy it. Can they sell corn, pork, oats, flour, *lime*, horses, mules, beef, cattle, steam engines, sugar boilers, to the Islands, to a greater extent than they can now?

"I am satisfied that the cutting off the market of the lower country for the production of the upper, would very sensibly affect the value of them, and thereby the value of the lands in the west; and does South Carolina, Georgia, Alabama and Mississippi, see the effect of turning our labor back again to cotton, which would increase the quantity 300,000 bales, and does not Virginia and Maryland see what effect this would produce upon the value of slave labor?

"The condition of the slaves is improving fast in the sugar region; many of the largest planters have already excellent brick houses, and that accommodation is extending to all the plantations. It is very easy to make and lay the brick, and it requires less expenditure of money. The slaves are well clothed and abundantly fed, with the best of provision. There is nothing that I remark with more pleasure than the improvement which takes place in the appearance of the slaves on coming from the north, and being settled on the sugar plantations."

Mr. Johnston says this letter is from a very intelligent gentleman, and may be relied on. There is no doubt his statement of corn is correct. The mistake arose from copying the statement furnished him, but he did not feel at liberty to correct it.

He is aware that four hogsheads is too large an average. This statement was made from twenty plantations, below New Orleans, in the most favorable region, and the oldest and best established plantations in the country; and that a general average will fall far short of the quantity.

The 25,000 hands he observes also, were estimated to make 100,000 hogsheads upon the calculation of four hogsheads to the hand, and the number estimated may, therefore, be too small. But his object was to state the facts most strongly against his argument, so as to leave no room for cavil about the facts.

HORTICULTURE.

(From the New England Farmer.)

Proceedings of the Massachusetts Horticultural Society, at a meeting held at the Hall of the Institution on the 9th of April, 1831.

Report made by H. A. S. Dearborn, President of the Society.

It is with great pleasure that I am enabled to announce encouraging indications of the deep interest which has been excited, in all parts of the Union, in favor of horticultural pursuits. A spirit of inquiry has gone forth, and a zeal for collecting and disseminating intelligence, seeds and plants, has been evinced, within a few years, which presage great results. The liberality which has been extended towards our institution, by numerous intelligent, patriotic and generous fellow-citizens, as well as by many foreign honorary and corresponding members, merit our grateful acknowledgments. Having acquired a reputation, far in advance of our actual means of utility, and of the services which have been rendered to a most interesting and valuable department of tillage, we must strenuously endeavor to reach the level of public expectation, by renewed efforts, to make our labors more directly and extensively beneficial.

To insure success, in any undertaking, unremiting industry, and a resolute determination to surmount all impediments, are indispensable; and with such powerful means nothing is impossible.

Since the last meeting, the following letters have been received.

1. A letter from Sheldon Norton, of Pennsylvania, now making a tour through the southwestern States.

Conecuh County, Alob. Jan. 4, 1831.

Gen. H. A. S. Dearborn,
President of the Mass. Hort. Society.

Sir,—I am now in Alabama, with a view of promoting the cause of Sunday School instruction. I have, though a layman, been urged to this course by a high sense of religious duty. All the energies of my mind will be devoted to this service, for some eight or ten months yet to come. At which time, if my health is preserved, I shall probably return to my residence at Mount Republic, Wayne county, Pennsylvania.

Feeling an interest in whatever may refine the taste, improve the mind, or add to the proper enjoyment of my fellow-men, I have viewed, with much pleasure, the organization and successful operations of the Massachusetts Horticultural Society; and have been induced to offer any service that may promote the success of that association, and that may be consistent with the performance of a higher duty.

If the society should not have a correspondent, resident in this State, whose friendly attentions may make my offer unnecessary, you can command, from me, any compatible service which my limited pecuniary resources will admit. I am no botanist, but I would, most freely, inquire for, search out, and forward, in such manner as may be directed, cuttings, seeds, &c. of any desirable varieties of fruit, plants, &c.

I have been informed by Mr. Mobley, a respectable planter of Clarke county, and who had been for a number of years a member of the Legislature of this State, that a successful method of propagating rare varieties of fruit, as practised in this climate, is by planting cuttings thereof early in the spring. Of this, my informant stated the most indubitable testimony could be given. For examples of successful practice, he referred me to two or three of his friends. Notwithstanding the unusual drought of the last season, Mr. Mobley had been successful with cuttings of the peach and quince, and with a considerable proportion of his apples.

Thrifty suckers, termed, by him, "water sprouts," are taken from choice trees and planted in a horizontal trench, and covered, to the depth of six or seven inches, throughout, with the exception of one or more points—according to the length of the cutting—containing one or two buds exposed to the influence of the light and air. If the cutting should shoot forth at more than one point, the number of plants would be multiplied by separating the cutting between the shoots with a chisel the ensuing year.

I must confess that I have been induced, by witnessing unsuccessful experiments, to be not a little sceptical as regards the propagation of rare varieties of the apple, pear, peach and cherry, by planting cuttings thereof; but, if I am permitted to sit down in my family circle again, I think I will allow my scepticism to give way, so far as to prove, by practical experiments, whether I have, this time, hit upon a successful modus operandi.

We have, in Wayne county, Pennsylvania, two or three known native varieties of apples, which are believed to possess qualities that would commend them for general cultivation.

We have also other valuable varieties in cultivation, whose different synonymes I have not had the means of determining. The obstacles, in the way of a direct freight to Boston, have prevented my forwarding samples of our best varieties. The difficulties are now in some measure removed by the construction of the Delaware and Hudson Canal.

Letters addressed to me at Montgomery, Montgomery county, Alabama, will probably reach me in the course of from three to five weeks. I expect to make a short visit to Mobile, and possibly to Pensacola. I am, sir, very respectfully,

Your obedient servant,
Sheldon Norton.

A letter has been sent to Mr Norton, thanking him for his kind proffer of services, with assurances of the high value we place upon them, and of the obligations which he will impose upon us, by such contributions, as it may be in his power to make, to our fund of information, in any of the divisions of horticulture, or to the existing collections of indigenous plants.

Such voluntary tenders of assistance, indicate the universal excitement which has been induced for the developement of the various branches of rural economy, while they claim our admiration as Americans, and our gratitude as a society.

2. A letter from Gideon B. Smith, Esq., Editor of the American Farmer, published in Baltimore.

Baltimore, March 31, 1831.

Sir,—I have taken the liberty of forwarding to your address, by the brig Hamilton, captain Foster, a small box, containing a dozen roots of Aracacha, for the use of the Horticultural Society of which you are, I believe, President, and request their acceptance of it.

I have twice succeeded in importing this valuable root in a sound and vigorous state. Last fall I imported one hundred and forty roots, and have succeeded in preserving them perfectly sound to the present time, by merely packing them in moist earth, and keeping them in a cellar protected from frost.—They are now growing finely in my conservatory, and I have no doubt of perfectly succeeding in their cultivation in the open ground.

I have just made my second importation, and the roots are equally as sound as the former ones. Those I send you are part of this last lot.

I am somewhat fearful that your season will not be long enough to allow the roots to attain a proper size; but that is all the doubt I have of their succeeding with you, provided the roots be planted and steadily kept in a shady cool situation.* This appears to be the only difficulty—the heat of our sun is their only enemy in this country. The reason, I apprehend, of the ill success of former attempts to introduce this valuable esculent, both into N. America and Europe, is, that *edible* roots, such as are sold in the markets of Caraccas, were taken, whereas the little offsets that spring from the large roots are the proper ones. Another cause may have contributed to this failure; I employed two gentlemen in two successive years to obtain *aracacha* for me, but they could find none in all Colombia. I then learned that it was called *appio* by the Colombians; using that name, I succeeded.

I am, with due respect, yours,

GIDEON B. SMITH,
Ed. Am Farmer.

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The present which Mr. Smith has so generously transmitted, is most worthy of our especial attention, and claims the assiduous care of such of the members as have the requisite means of making a thorough experiment.

The Aracacha has recently attracted the notice of most of the celebrated horticulturists in Europe, and is considered as destined to assume an important station among esculent vegetables. It is a native of Santa Fee, Bogota, New Granada and other parts of South America, where it is considered the most useful of all the edible roots; being superior to the common and sweet potato, (Convolvulus Batatas;) it is extremely grateful to the palate; so tender that it requires but little cooking, and so easy of digestion, that it is the common practice, where it is cultivated, to give it to convalescents and persons who have delicate stomachs. Starch and a variety of pastry are made of its fecula, and it has all the advantages of Arrow-root and Tapioca.

In 1825, that distinguished botanist, the Baron de SCHACK arrived in the United States from Trinidad, and brought some of the roots of the Aracacha, for the purpose of introducing its cultivation in the southern and middle states, where he believed it could be successfully done. Doct. S. L. MITCHILL, ever conspicuous for his zealous attention to whatever may subserve the cause of science and the interests of his country, took great interest in the experiments.

Plants were confided to Mr. Michael Floy, a meritorious nursery-man of New York, who attempted to acclimate them. He placed them in his green-house, where they passed the winter in security. The following spring, when the frosts had passed, they were transplanted into the garden; but the season having been unusually dry, they perished; and Doct. Mitchill expressed doubts, as to the possibility of introducing the culture of the Aracacha so far north; still Mr. Floy believed that it could be propagated in the latitude of Long Island, and he attributed the loss of his plants, to a too sudden exposure to the air, in the open ground, without any protection against adverse vicissitudes of the weather.

An experiment was commenced by the Chevalier SOULANGE BODIN, at the horticultural establishment of Fromont, in April, 1829; and by a communication, in the number of the Journal of that Institution, for August last, he appears to entertain hopes of ultimate success and thinks this valuable vegetable may be cultivated, in the southern departments of France, Spain and in Italy, to advantage. He states that it is cultivaled in the Botanical Garden of Montpellier and flourishes in that of Geneva. Experiments have also been made in the Garden of the London Horticultural Society at Chiswick, at Bury-Hall, by Robert Barclay, Esq., at Plymouth, and by the great nursery-men, Messrs. Loddiges.

The Aracacha has been successfully introduced into Cuba and Jamaica, and if our climate should prove too cold, there is but little doubt it can be propagated in the southern states, and may become the rival of the Sweet Potato.

The roots, or small tubers, are planted in South America, about twenty inches apart, with a slight inclination towards the south; when they sprout above the ground, they are managed like the Sweet Potato. As the flowers begin to form, they are carefully plucked, in order to concentrate the vigor of vegetation in the roots. At Santa-Fee, where the mean temperature is about 73 degrees of Fahrenheit's thermometer, the roots acquire their full growth in six months. In Jamaica where the Aracacha flourishes remarkably well, it is cultivated in rather poor land, such as that of the mountains of St. Andrew, where there falls but little rain.

It is well known to you, that Mr. Smith to whom we are indebted for the Aracacha roots, succeeded John S. Skinner, Esq. as Editor of the American Farmer. The latter gentleman has acquired a deservedly high reputation, for his indefatigable efforts, to advance the science and art of agriculture and gardening, throughout the United States; and Mr. Smith is actively pursuing the same meritorious course, in a manner which must secure to him the respect of the intelligent planters of Maryland, and the benedictions of his fellow citizens in every section of the republic. The labors of those gentlemen are not only duly appreciated, by the cultivators of the soil, on this side of the Atlantic, but have received the commendations of those, on the eastern continent.

If a winged Mercury transmitted intelligence, among the gods of ancient mythology, the genius of the moderns has more than supplied his office. By the art of printing, innumerable heralds are incessantly sent forth, who interchange the tidings of every region of the globe; and with such certainty and celerity, that they have not only received the name, but far surpassed the services of Jove's fabulous messenger. It is thus that all the discoveries and improvements, and whatsoever is useful or interesting to man, in the glorious career of civilization is immediately made known; and individuals, distinguished for their intellectual attainments, and arts of philanthropy, instead of being claimed as the citizens of a single nation, are hailed as compatriots in the vast republic of letters, science and the arts, and are universally honored as the benefactors of the human race.

Respectfully submitted, by

H. A. S. DEARBORN.
Pres. Mass. Hor. Soc.

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The following resolutions were unanimously adopted:

Resolved, That the thanks of the Society be presented to Gideon B. Smith, Esq., Editor of the American Farmer, for the very acceptable present of Aracacha roots, which he has kindly transmitted from Baltimore.

Resolved, That the Aracacha Roots be confided to John Lowell, Esq., Thomas Nuttall, Curator of the Botanic Garden, David Haggerston of Charlestown and Nathaniel Davenport of Milton; and that they be requested to attempt their cultivation, and report the results of their experiments to the Society.

The following members were admitted.

GIDEON B. SMITH, Esq. Editor of the American Farmer, a corresponding member.

MEMBERS.

JOSIAH STEDMAN, of Newton.
GARDNER BREWER, of Boston.
S. N. BACON, do.

(From Poulson's American Daily Advertiser.)

EXTRACT FROM THE MINUTES OF THE PENNSYLVANIA HORTICULTURAL SOCIETY.

The fruit committee of the horticultural society, in addition to their report on strawberries made in June last, beg leave to state that they have examined during the summer and autumn such specimens as were submitted to their inspection and lament to say, that although some fine fruit has been exhibited, yet it has not been in quality, size, or flavor equal to the expectation they had formed when the list of premiums was published. Nor can they conceal their mortification that more emulation has not been produced among cultivators for the prizes offered by the society. They are willing, however, to attribute it to the want of knowing generally that such premiums existed, and hope the course now pursued by the society will bring forth during another year a greater variety, and more competition.

The committee would further state, that at their late exhibition of fruits, in October last, Mr. Bates, of Camden, New Jersey, sent a large quantity of a very superior late seedling free-stone peach, of his own raising. Several high flavored water and nutmeg melons, and a bushel of uncommonly large sweet potatoes; and although not exactly embraced within their duties, yet the committee believe they cannot recommend a measure more likely to further the views of the society, than to award a medal to this gentleman as one of the most successful cultivators of fruits and vegetables in the neighbourhood of our city. With these observations they report that

David Allen, of Burlington, N. J. is entitled to the premium of three dollars, or a silver medal of that value, for two quarts of the finest gooseberries.

To Mr. Lawrence, of Penn Township, the premium of five dollars, or a medal of that value, for one dozen of the best and largest magnum bonum plums.

To Mr. W. Cartleband, the premium of five dollars, or a gold medal of that value, for the best late beurie or late butter pears.

To J. S. Waln, of Philadelphia, a premium of five dollars, or a gold medal of that value, for the finest grapes; and a gold medal of the value of five dollars be presented to Mr. Bates, of Camden, N. Jersey, for his superior seedling late free stone peach, his high flavoured nutmeg and watermelon and large sweet potatoes.

ROBERT CARR,
THOS. LANDRETH,
DAVID S. BROWN,
THOMAS HALE,
} *Committee on Fruits.*

The committee on vegetables report the following premiums for the best vegetables exhibited to the society last year, viz:—

To the gardener of H. Pratt, esq. for the earliest and best cauliflowers, a premium of ten dollars.

To J. Engleman, for the best early potatoes, a premium of \$3; for the best early cabbage a premium of \$2; for the best tomatoes a premium of \$2; for the best melongena (egg plant) a premium of $2; for the best celery a premium of $2.

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* The temperature of their native climate is seldom above 70: they should have a rich black soil.

To D. D. Maupay, for the best early peas, a premium of $2; for the best artichokes a premium of $2; for the best cardoons a premium $3.

Samuel B. Davis,
Thos. Astley,
D. Maupay,
A. D'Aras,
Committee on Vegetables.

RURAL ECONOMY.

WOOL.

Mr. Smith: *Baltimore, April* 13, 1831.

If any suggestions contained in the annexed communication are, in your opinion, of sufficient importance to interest the farmers and others who subscribe for your valuable paper, you are at liberty to publish them for their perusal.

The farmers in this vicinity, as well as others interested in agriculture, are doubtless already aware that wool *is becoming a very important staple article of our country:* therefore those who intend raising the article for market, should be in possession of all the information, which they can obtain, respecting the most suitable method of preparing it, so that it will meet with a ready sale; and at the same time afford the wool-grower a fair compensation for the labor and expense in the care of his flocks. Many facts might be given on this subject; but I shall state only those which seem of immediate importance. During the past year, I have found from experience, that the wool which has been offered for sale in this market, has been, a great proportion of it, unwashed, and very heavy: those lots which have been washed are generally in a very bad condition, and the manufacturers of New England, to whom a large quantity of this wool has been sold, have very generally made complaints respecting the condition of the wool shipped to them from this city.

Many farmers in New England, have, during several years past, devoted particular attention to their flocks, and at this time, the *growing of wool among them has become an extensive and profitable business.* The experience which they have had, and their daily intercourse with the manufacturers, has led them to adopt that method of sending their wool to market, which is best calculated to ensure a ready sale, and at the same time give satisfaction to the manufacturer.

During *ten* years experience in dealing in the article in Boston, I have found that, *the practice is universally adopted of washing the wool on the sheep.* The fleece, after sufficiently dry, is taken from the sheep with much care, in order to prevent its being torn to pieces; after which it is neatly rolled, with the sheared side out, and secured in that condition with a small cord or twine.

The manufacturer or wool-assorter, who finds the fleece in this condition, is able to assort it much more accurately, and, with *at least one half* the trouble that is required when the different fleeces, and the different parts of each fleece are mixed together. If the wool is washed after taken from the sheep, without being assorted, *as is often the case in this section of the country,* it is, in this condition, almost impossible for the best judges to do justice in assorting it: because washing in this condition mixes the heads of the fine and coarse part of the same fleece, and also the different fleeces together, and renders the different qualities almost inseparable. Therefore, I would recommend to *every* person who intends sending their wool to market, to have it *washed on the sheep,* similar to the manner adopted in New England.

The best method of sending the wool to market, is, to have the *different kinds or grades* packed separately in coarse linen bags of suitable size to contain about 100 pounds. Those who adopt this method of preparing their wool, will obtain for it, if sent to this market for sale, *at least ten or fifteen cents a pound* more than they would if sent to market *unwashed,* and in the condition which it is now generally offered for sale.

Very respectfully, your obedient servant,

Lyman Reed,
No. 195 *Baltimore-st.*

MISCELLANEOUS.

CAROLINA; OR, THE PLANTER,

BY GEORGE OGILVIE.

(Continued from page 38.)

Such are the labours of the short'ned day,
When distant Phœbus gives an oblique ray;
Ere spring advancing, bids the new-clear'd field,
To genial warmth its virgin bosom yield.
Which, soft as fertile, scarce the farmer tills,
To scatter grain, or drop in gather'd hills;
Or forms with drilling plough, or slight press'd hoe,
For choicer plants, the equidistant row.

Yet let not *Plutus* all your thoughts employ,
To pile up wealth, your soul dares not enjoy.
Say, what the tyrant's power, the wealth of kings,
To social joys domestic comfort brings?
If you to *Ceres* consecrate the vale,
On yonder slope the cheerful *Lares* hail;
There let no palace rise—no sculptur'd pile,
But in snug halls, full-handed Plenty smile.
Where decent neatness sweeps the Cypress floor,
And hospitality unfolds the door.
Round the gay fire, that gives both warmth and light,
Whilst harmless mirth curtails the wintry night,
And loud without the raging tempests blow,
More joy your welcome guests and household know,
Than where, from gilded capitals, is spread
The dome, high arch'd o'er ceremony's head.
Nor to *Vertumnus* grudge a safe retreat,
Where he may *Flora* and *Pomona* meet.
Yet deck your garden in that modest sort,
As Homer paints it, at Alcinous' court;
Not stiff and formal, as where Dutchmen clip
The boxen ocean round the yew-tree ship;
Nor with that show of negligence it bears
Round the proud mansions of Britannia's peers;
Where, almost unconfin'd, the wand'rer roves,
O'er hills, and dales, and fields, and lawns, and groves.
Where all around prevailing art appears,
We love that mask of nature which it wears.
But *here,* where nature acts the sov'reign part,
Why *hide* th'administrating hand of art?
Not less our hearts the patriot monarch gains,
That Sully counsels when a Henry reigns!
Nor more need nature dread art's chaste display,
Than Trajan's laurel shrinks from Pliny's bay!
Such Crowfield might have been, and such may be,
Should Lowndes's wealth give nerve to industry;
Should taste's soft pencil mellow art's harsh line,
And nature's flowing mantle veil design;
That checks her froward, meets her happy bent,
Bespeaks improvement, but conceals restraint.

And lo! my friend, where, all the muse demands,
On Goose-creek's banks thy own Otranto* stands!
Where pleas'd and wond'ring as we thrid the maze,
We doubt what beauty first demands our praise.
The river, bounded by impervious shade,
The smooth green meadow, or the enamel'd glade,
Where all the pride of Europe's florists yields
To the assembled wildings of our fields;
Tho' *here,* with brighter tints the tulip glows,
And richer fragrance scents Damascus' rose;
As emulous those honours to maintain,
That rank'd them chief in Flora's ancient reign;
Whilst yet unnam'd the great Magnolia bloom'd,
And humbler Glauca trackless wilds perfum'd.

Here Pales seems with Flora to have strove,
To bend the beauties of the lawn and grove;
Till ev'ry season yields its ev'ry flow'r,
Pride of the month, or pageant of the hour.

Here early blossoms deck the unfledg'd Thorn,
And yellow Jasmines leafless trees adorn.

Bright as the blush of Venus when she loves,
Sweet as the woodbine of her Paphean groves,
Th'Azalea climbs the Cypress' loftiest bough,
And Periclymenons low shaded blow,
Blending their lovely tubes of roseate hue,
With the Glycine's variegated blue.
From tree to tree the flow'ry tendrils rove,
Till one continu'd garland binds the grove—
Winding through shady walks, we slow descend,
To skirt the mead, or trace the river's bend.
Where, like the monsters of th'Egyptian stream,
Prowling for food, grim Aligators swim,
Or basking on the further margin, spread
Their bloated bulk along the slimy bed:
Whilst hither all the finny tribes repair,
From tyrants fled, whom more than man they fear;
Who patient angling, with insidious bait,
Lures the delicious morsel to its fate;
Till *Labrus-Trout* and azure Bream afford,
A choicer feast than grac'd Apicius' board,
When Rome's wide world saw all its waters roll,
To glut the craving of his rav'nous jole.

We mark the white Accasia, all alive
With Bees, or see the Orange drain the hive,
Whilst fragant Calycanths* appear to bring
The fruits of Autumn 'midst the flow'rs of Spring;
White Chionanths,† with flaky fringe, display
December freezing in the lap of May,
As Periclymenons luxuriantly throw
Their glowing wreaths around the mimic snow;
And yellow Jasmines interweave between,
Their golden blossom, and their em'rald green;
Which, though their beauties deck'd the infant year,
Still uneclips'd in May's rich train appear.

Here Quamoclits their blushing flow'rs renew,
Ere rising suns exhale the morning dew;
As if asham'd the tell-tale morn should see
Their tender limbs entwine yon vig'rous tree;
And all their sweets despoil'd by insects—gay
As their bright blossoms, and short-liv'd as they,
Which droop ere Sol meridian ardor gains;
Whose hottest ray the Helyanth sustains,
Turns as he turns, like the eye of jealous love,
And dares his radiance like the bird of Jove.
Whilst each mellifluous flow'r his influence meets,
Loading the air with overpow'ring sweets;
And Man, with all the animated train
That wing the air, or tread the grassy plain,
Shrink, from the fervid ray and sultry breeze,
To yonder eminence, where lofty trees
Suspend, on spreading limbs, a leafy veil,
That gently waving, fans the temper'd gale.
There, midst the grove, with unassuming guise
But rural neatness, see the mansion rise!
Where cheerful hosts invite the easy guest,
Each social boon of indolence to taste;
Yet to no tedious listlessness a prey,
The soul unbends in wit's fantastic play.

Nor distant far, where Liriodendrons spread,
More rich than Persian Looms, a painted shade,
A Temple, sacred to each Muse, we find,
Stor'd with the noblest treasures of the mind;
Where all the elegance of art conspires,
To grace the authors ev'ry age admires.

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* Otranto, the Villa of Doctor Garden.

* The Calycanthus, or sweet scented shrub, has a blossom that in smell, colour, and shape, has much the resemblance of some kinds of fruit.

† The Chionanthus, or fringe tree, when in blossom, seems as if covered with new fallen snow.

Plac'd by their favor'd pupil's grateful hand,
In splendid rows, the healing Sages stand.
Religion there unfolds the inspired page,
There history revolves each distant age,
Displays the varying fate of Rome and Greece,
The pride of conquest, and the arts of peace;
What magic pow'rs to eloquence belong,
How Cat'line's dagger drops to Tully's tongue,
And states by union rise, by discord fall,
As sounds persuasive fascinate the hall.
There Newton dares, on Science's wing. to fly
Thro' all the wond'rous system of the sky.
By Franklin follow'd, whose Promethean soul
Audacious hears the awful thunder roll;
From Heav'n to Earth the captive flame conveys,
And with the fetter'd corruscation plays.
Whilst with less brilliant, not less pleasing lore,
Linnæus and Buffon this world explore;
From chaos to fair order point the road,
And trace the chain that links the works of God.
With Locke, great searcher of the human mind,
Who strives the latent springs of thought to find,
Nor dreams, vain man in studying nature's laws,
Can, 'midst her wonders, doubt th'almighty cause.
As when dissection seeks the cause of life,
Till it expires before the incisive knife.

There, too, sweet Poesy her tribute brings,
Her Homer *there*, in native numbers sings;
Whilst Pope, illum'd by his great master's fire,
Responsive strings his sympathetic lyre.
There *Virgil* tunes his pastoral reed, and there,
How far before us!—sings each rural care.
Or, rising with his theme, his lay records,
Whence sprang the ancient world's triumphant Lords.
There Plautus' jest, and Terence' chaster style,
Show what made *millions laugh*, and *Scipio smile*.
There Horace playful lashes vice, and there
Stern Juvenal and Perseus frown severe.
There Ariost' embellishes with verse,
The Gothic tales of his loquacious nurse;
And Tasso's truly classic page describes,
How Godfrey led to fame his Christian tribes.
There to a polish'd if enfeebl'd string,
The Bard of Ferney sings the Patriot-King.
Say! worthy last to strike the epic lyre,
Shall, with Voltaire, Calliope expire?
Or sink to rise, as sets th'European sun,
Thro' this *new* world a brighter course to run?

There Milton, conscious of superior pow'rs,
O'er ev'ry modern Bard majestically tow'rs:
Tow'ring to fall! presumptuous, to choose
A theme too lofty for the noblest muse!
Milton had dignifi'd Olympean skies,
Our thoughts of heav'n beyond expression rise,
And all the magic splendor of his lay,
Fades in *those* thoughts, like meteors in the day.
There Shakespeare, Thompson—bards whose praise requires
Some emanation of their heav'nly fires.
Whilst virtuous Beatty, with a double claim,
Asserts a Poet's and a Sage's fame;
As round young Edwin's pipe the laurel twines,
Or Truth's bright ray through sceptic darkness shines.
There Gay—there Goldsmith—but more short to tell,
Who is not there, that doth in song excel.
And there perhaps, these favour'd lines shall rest,
Whilst Judgment smiles at Friendship's partial test.

Now ev'ning's beams shoot mildly from the West,
And *all* impatient to the garden haste;
Our noon-tide waste of spirits to repair,
With rural pastime and refreshing air:
Whilst Bees resign to Humming-birds their place,
Those pigmy beauties of the feather'd race,
That gaily hov'ring on the sounding plume,
Drink deep the richest nectar of the bloom.

And now Peruvian Marvels slowly fold
Their scarlet blossoms varying into gold;
Nor doth the Gnomen's shade on sculptur'd brass
More truly say how fleeting moments pass,
Than doth the Marvel's gradual change betray
The downward progress of departing day.
Whilst tearful Even, in dew drops seems to mourn
Such beauty, doom'd to hail no rising morn.

(To be continued.)

From the American Turf Register and Sporting Magazine, edited and published by John S. Skinner, Postmaster of Baltimore, at $5 per annum—payable in advance, by letter to the editor, at his risk.

The Sporting Magazine is published in monthly numbers of about 50 pages each, with elegant Engravings of Horses—Dogs—Birds, &c. &c. with a title page and index for each volume of twelve numbers.

SALES OF HORSES.

The appreciation and current value of *bred* horses may be estimated by the following sales, of very recent date, which have casually come to our knowledge.

Kate Kearney and Polly Hopkins, for $4675.

One half of Sir Charles, for $3000.

Medley, (Johnson's) for *one half* $1000 *refused*, since sold we have understood for $5000.

Annette, three years old, by Sir Charles, sold for $2000. Twice a winner before the sale.

Andrew, by Sir Charles, 3 years old, for 1500, without having won a race.

Jemima Wilkinson, three years old, for $1550, and afterwards for $2500; a winner twice and beaten twice.

Maria West, 3 ys. old, by Marion, $1500; twice beaten, never won a race.

An Arab filly, three years old, unbroken, for $600.

Collier, by Sir Charles, four years old, $1500; sold in September last and has since much more than cleared himself to his owner, without any thing being risked by him except the entrance money.

Restless, four years old, by Virginian, $1750; twice a winner since sold;—$500 advance on the purchase has been refused.

Havoc, by Sir Charles, four years old, for $2500, to the Reverend H. M. Cryer, of Tennessee.

Contention, about fifteen or sixteen years old; one half of him for $1500.

Champion, 3 years old, by Arab; beaten once, a winner once, for $1000.

King Agrippa, by Sir Archy, three years old; never gallopped, for $1000, to W. R. Johnson, Esq.

Star—$3000 offered by T. A. Pankey, of Tennessee and *refused* by W. R. Johnson. The same gentleman offered $5000 for Charles, also refused.

Sussex, by Sir Charles, $3000 offered.

Note.—The celebrated Pacolet, sire of Monsieur Tonson, was bought, at fifteen months old, by W. R. Johnson, Esq. for $179, and afterwards sold to Gen. Andrew Jackson for $3000. If alive now, and eight years old, he would probably sell for $10,000.

Byron, by Virginian, one half for $1500.

Supposing in each case the horse would sell for double the sum refused for one half, and we see that actual sales, and offers for horses not sold, give, within a few months, for the seventeen animals first above named, bred, it may be said, in one neighbourhood, the sum of $42,525, or more than $3000 each!

EXTRAORDINARY PERFORMANCE.

Who, after reading the annexed account, can undertake to calculate the benefits and advantages which well constructed Rail-roads are certain to afford, or which, as in our own case, will be secured to Baltimore by the great work now in progress to the West? The account is from a late Liverpool paper, and is thus introduced by the editor:—"We have frequently had to detail performances on the Liverpool and Manchester Railway, which have excited feelings of astonishment, and some of them, perhaps, a little incredulity, in the minds of our readers. We have now, however, to record a feat which far out-does all former out-doings, and proves that the full powers of locomotive engines on Railways have been, as yet, very little understood. On Friday morning Mr. Stephenson's engine *Sampson* started from Liverpool with 30 wagons, carrying the following load:

	Tons.	Cwt.
23 wagon loads of oats	82	10
7 wagon loads of merchandise	24	15
Total net weight	107	5
Tares of the 30 wagons	42	15
Fifteen persons (chiefly directors and their friends)	1	0

Making a gross weight of *one hundred and fifty-one tons*, (besides the weight of the tender, with its coke, water, &c.) With this enormous load the *Sampson* moved off, as we have already stated, at ten minutes past eight; and proceeded to the foot of the Huyton inclined plane at the rate of about twenty miles an hour. It was assisted up the inclined plane by three other engines (the *Mars*, the *Mercury*, and the *Arrow*,) and arrived at the top in 38 minutes after leaving the station. As the assisting engines pushed behind the load, whilst the *Sampson* tugged in front, it was easy (by observing where the connecting chains were tight, and where slack) to ascertain what portion of the work was done by each; and it was found that the *Sampson* generally drew sixteen wagons (the gross weight of which would be about 80 tons.) On arriving at the top of the inclined plane, the *Sampson* stopped five minutes to take in water, and then proceeded to Parkside; where it arrived at 27 minutes past nine; stopped there eight minutes to water, and arrived in Manchester at sixteen minutes before eleven. The whole time of the journey was consequently two hours and thirty-four minutes; and deducting the thirteen minutes employed in taking in water, the net time of travelling was *two hours and twenty-one minutes*. From the performance of the *Sampson* on the inclined plane, no doubt is entertained that it would draw 200 tons on a perfectly level railway. The quantity of coke consumed by the *Sampson* in this extraordinary journey was 1376 lbs. (12 cwt. 1 qr. 4 lbs.) being not quite one third of a pound per ton per mile. Adding to this the coke consumed by the three engines which assisted up the inclined plane, the whole expense of fuel would not amount to twenty shillings."

THE FARMER.

BALTIMORE, FRIDAY, APRIL 22, 1831.

☞ The proceedings of the Massachusetts Horticultural Society, published in another part of this number, demand the most respectful acknowledgments of the editor. The approbation of such an institution, composed of such a body of men, is an object worthy of the most exalted ambition. The editor will not affect indifference to such testimonials of public favour; but it is due to himself to say, that such demonstrations of it have never been the motive of action with him; and while he freely acknowledges their potency as a stimulant to future exertion, he looks for his rich reward in the happiness of his fellow creatures, to which he may have contributed, in causing two blades of grass to grow where but one grew before.

The Aracacha, a part of which was the occasion of the proceedings in question, is now in a course of experiment in the editor's garden. He has made no mention of it in the Farmer, being desirous of first putting its value and adaptation to our climate fairly to the test. He has a sufficient quantity of the roots for a complete experiment; and if it succeeds, as it now seems almost certain it will, he will be able another year to supply other cultivators, and thus effect its introduction as a regular subject of culture. Thus far, it is the editor's opinion, that Aracacha will occupy a place in our husbandry fully equal, if not superior to any other vegetable.

For his success in this attempt to import the Aracacha the Editor is much indebted to the attention of Mr. Wm. P. Matthews of this city, who kindly procured the roots from the mountains of Colombia, and attended personally to their shipment and importation. The roots were carried by one of the natives of the country on his head sixty miles. Captain Gardner of the Schooner Sun, in whose vessel they were imported, is also entitled to the Editor's acknowledgments for affording them a conveyance to this country.

We ask the reader's attention to the second number of De Rustica, in another part of this sheet, on horizontal ploughing—he will find some truths there worthy of calm reflection. Every farmer will at once recognise the truth of De Rustica's remarks upon the unwillingness of overseers and labourers to adopt improved modes; but we fear they will not all feel the force of those truths, as applicable to themselves. How many farmers have adopted improvements, even such as have been in successful operation before their eyes for years? It seems almost necessary not only to suggest and test improvements, but, to *hire* farmers to adopt them; and even then,—such is the perverseness of human nature, and such its head strongness in the pursuit of old paths, even though they are beset with thorns and filled with brambles, and lead through barren and stony places,—there are many that cannot be hired to take the new course. If they were the only sufferers, though philanthropy might weep, the patriotic might let them alone; but it is not so. The country, the whole country suffers by it, and therefore it becomes the duty of patriots and philanthropists to exert themselves to the utmost for the removal of such ignorant prejudices.

Prices Current in New York, April 16.

Beeswax, yellow 22 a 23. *Cotton*, New Orleans .10 a .12; Upland, .8½ a .10¼; Alabama, .8½ a 11½. *Cotton Bagging*, Hemp, yd. 18 a 20; Flax 12½ a 16; *Flax*, American, 7 a 8.——*Flaxseed*, 7 bush. clean .—— a .—— *Flour*, N. York, bbl. 6.75 a 6.87; Canal 7.00 a 7.25; Balt. Hwd. st. —— a 6.87——; Rh'd. city mills 7.00 a —— country, 6.75 a 6 87½; Alexand'a, 6.75 a 6.87; Fredericksburg 6.50 a 6.62—; Petersg —— a 6.62; Rye Flour, 3.87½ a 4 00; Indian Meal, per bbl. — a 3 75; per hhd. ——- a 17.00 *Grain*, Wheat, North, —- a 1.40; Vir. —- a 1.37; Rye, North, 78 a 80; Corn, Yel. Nor. 73 a 75; Barley, 80 a 81; Oats, South and North, .31 a .35; Peas, white, dry, 7 bu. 5. Beans, 7 bu. 7.00 a 8 00. *Provisions*, Beef, mess 8.50 a 9.25; prime 5.50 a 6.25; cargo 4.62½ a 5.00; Lard, .9 a .10; Pork, mess bbl. 14.00 a 14.75; prime 10.50 a 11.00.

Prices Current in Boston, April 13.

Apples, new, bbl. 2 50 a 3.00 *Beans*, white, bushel .90 a 1.00. *Beef*, mess, bbl. 8.75 a 9.00; cargo No. 1, 7.50 a 7.75; No. 2, 6.50 a 6.75. *Butter*, inspected, No. 1, new, lb. .11 a .15. *Cheese*, new milk, 6. a 8.; skimmed milk, 3. a 4. *Flour*, Baltimore Howard-st. 7.12 a 7.25; Genesee, 7.50 a 7.75; Rye, best, —- a ——. *Grain*, Corn, bu. .80 a 82; Rye, .65 a .70; Barley .62 a .75; Oats 43 a 45. *Hogs-Lard*, 1st sort new, lb. 9 00 a 10.00; *Pork*, clear, bbl. 17 a 18; Navy, mess, 13.00 a 14.00; Cargo, No. 1 13.50 a 14.00; *Wool*, Merino, full blood, washed, .60 a 62; do. do unwashed, .— a .—. Merino mixed with Saxony, .65 .75; Merino, three fourths washed, .52 *a* .60, do. half blood, .48 *a* .55; do. quarter, 40 *a* 45. Native, washed .40 a .45; Pulled, Lambs', 1st sort, 50. a 58; do. 2d sort, .42 a .44; Pulled Spinning, 1st sort, 45 *a* 50.

AGRICULTURAL BOOKS.

Lorrain's Husbandry.
The Complete Grazier.
Clater's "Every Man his own Cattle Doctor."
————————— Farrier; with a Treatise on the Diseases of Dogs.
Conversations on Vegetable Physiology.
For sale at this Office.

SALE OF SAXON SHEEP.

On *Tuesday* the 31st day of May, at 10 o'clock, A. M. at *Brighton*, near Boston, will be sold at auction, by order of assignee, the entire flock of ELECTORAL SAXON SHEEP, imported by George & Thomas Searle in 1826, with one half the increase of the flock since, consisting in all, of about 200 BUCKS and EWES This flock has been the last four years under the care of Samuel Grant, Esq. at Walpole, N. H. and is well known to all the growers of fine wool in that part of the country, rendering any description unnecessary.

Gentlemen interested in the improvement of the growth of fine wool, in distant parts of the country may be assured that, as a flock, these sheep are decidedly superior to any other ever imported into the U. States, and that the wool has not depreciated in quality, as an evidence of which the clip of last year sold, before any material rise had taken place in the market, at $1.33 per lb. for cash.

They may also rely that the sale will positively take place as advertised. COOLIDGE & HASKELL,
April 22. *Auctioneers.*

SINCLAIR & MOORE,
Pratt Street Wharf,

OFFER for sale a full supply of their new improved PLOUGHS, of different sizes, both wrought and cast shares—also many other approved kinds, constituting an assortment, from which agriculturists can be supplied with those adapted to all kinds of land. Hill side Ploughs; double mould Ploughs; Double and Single Shovel Ploughs; corn and tobacco Cultivators, with wrought and cast Tires; grain and grass SCYTHES; Scythe Sneads; and are now preparing a large stock of GRAIN CRADLES, on which will be hung the best quality Scythes, and be in readiness to supply the demand at an early period.

Also now on hand, a large stock of their improved WHEAT FANS, which will be constantly kept up.

Just received an additional supply of fresh GARDEN SEEDS and Garden TOOLS, Hay and Manure FORKS.

N. B. MILLET SEED WANTED.
April 22.

AGRICULTURAL WAREHOUSE AND SEED STORE.

The subscriber would inform the public that he has the following articles in store for sale, all of the best materials, faithfully and well made, viz.

Gideon Davis' highly approved Patent Ploughs in all their variety—Davis' ploughs improved as more adapted to stiff soils. Bar Share and Coulter Ploughs improved. Substratum and Shovel Ploughs, Cultivators for Corn and Tobacco. His Patent Cylindrical Straw Cutters, superior to any other article of the kind in use, also Dutch Cutting Boxes, Wheat Fans, Threshing Machines, an assortment of Hoes, Shovels, and Spades, Hay and Manure Forks, Cast Steel Axes, Wove Wire, together with a variety of other implements of husbandry of the most approved kinds. Also a general assortment of the Messrs. Landreth's Garden Seeds, which are fresh, and of prime quality, Clover and other Grass Seeds. Fruit and ornamental Trees, Bulbous Roots, Flowers, &c. furnished to order. Likewise Peirson & Walker's superior Mule and Jenny Spindles. J. S. EASTMAN.

N. B. Plough castings kept constantly on hand to supply the place of those worn out, also all kinds of repairs done at short notice. J. S. E.

Extract from Mr. Hall's Letter to John S. Skinner.

"The straw cutter is here, and in operation, and a most *admirable machine it is*—the best I have ever seen in this or any other country. I am truly obliged to you for the selection of the machine, as well as to Mr. Eastman for his explanation of the mode of keeping it in order." CHAS. HENRY HALL, *New York.*

BALTIMORE PRICES CURRENT.

Baltimore Market.—The flour market remains in a state of inactivity. In Howard street flour there is nothing doing, except taking what little there is coming in at $6. We have heard of a small sale on Wednesday at $6.12½. The prices of wheat are of course affected by the dull state of the flour market, and hence a decline has taken place. Rye and corn have improved a little. Owing to a partial scarcity, beef has advanced about 50 cents. In other articles nothing worthy of especial notice has taken place.

Tobacco.--Seconds, as in quality, 3.25 a 5.00; do. ground leaf, 5.00 a 9.00.—-Crop, common, 3.50 a 4.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 10 00; yellow and red, 8.00 a 14.00; yellow, 14 00 a 16.00.—Fine yellow, 16.00 a 20.00.—Virginia, 4.00. a 5.00.—Rappahannock, 3.00 a 4.00——Kentucky, 4.00 a 8.00. The inspections of the week comprise 163 hhds. Md; 27 hhds. Ohio; and 18 hhds. Virginia;—total 208 hhds.

Flour—best white wheat family, $7.00 *a* 7.50—super. Howard-st. 6.12½ *a* ——; city mills, 6.— a —-; Susq. 5.75 *a* 6.00; Corn Meal, bbl. 2.25; Grain, Md. red wheat, 1.10 *a* 1.20; white do. 1.20 *a* 1.30, Susq. 1.20 *a* 1.25-Corn, white, 68 *a* 70-yellow 68 *a* 70-Rye, 65 *a* 70. Oats, .33 *a* 34. Beans, 90 *a* 1.00-Peas, 50 *a* 60--Clover seed-— *a* -— Timothy, 2.00 *a* 2.50-—Orchard Grass 1.50 *a* 1.75--Tall Meadow Oat Grass 2.75—-Herd's, 50 *a* 75-—Lucerne 30 *a* 37½ lb.—Barley, 62½—-Flaxseed 1.25 *a* 1.30—Cotton, Va. 9 *a* 9½—Louisiana 10½ *a* 12½—Alab. 9 *a*. 11—-Tenn.. 9 *a*. 10—-N. Car.. 9 *a*. 10½——Upland 9½ *a* 10½-Whiskey, hhds 1st p. 26¾ *a* 29-; in bbls 30 *a* 31——Wool, common, unwashed, lb. 23 *a* .26——washed, .33 *a* .37-crossed, .37 *a* .42--three-quarter, .43 *a* .45--full do. .45 *a* .50, accord'g to qual.-Hemp Russia, ton, $255 *a* 260---; Country. dew-rotted 6½. *a* 7c. lb.--water-rotted, .7 *a* 8c.—Feathers, 33 *a* —Plaster Paris, per ton, 3.75 *a* 3.87½, ground, 1.37½ *a* —-bbl.——Iron, gray pig for foundries per ton 30.00 *a* ——; high pig, for forges, per ton, 25.00 *a* 28.00; bar, Sus., per ton, 80.00 a 85.00.—Prime Beef on the hoof, 6 25 *a* 6.50—Oak wood, 3.00 *a* 3.25--Hickory, 4.50 *a* 4.75—Pine 2.00 *a* 2.25.

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EDITED BY GIDEON B. SMITH.

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TERMS.

1. Price five dollars per annum, due at the middle of each year of subscription.
2. Subscriptions are in all cases charged *by the year*, and never for a shorter term.
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6. All letters concerning this paper must be directed to the publishers. They must be free of postage, except communications intended for publication, and letters containing money.

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AGRICULTURE.

FELLENBERG SCHOOL.

Outlines of a plan for a preparatory School, after the Fellenberg System. By F. A. Isman.

Georgetown, January 11, 1831.

I have heretofore stated, that I was willing to establish a preparatory school in this District, in order to introduce Mr. Fellenberg's system, until I can determine in which part of this country, I shall found an entire Hofwyl institution. I have, therefore, in this effort to show, by putting in execution a portion of such an establishment, what may be hoped from the erection of a complete one. It is my desire to begin by acting, and not by applying for the patronage of others. I have stated that I have not requested, and never will ask pecuniary aid. I have learned that such aid has uniformly proved injurious to the welfare of the institution, as every contributor claims a right to interfere in the internal policy—and while they pretend to support it, they substitute for its established system, their individual views and opinions, which are oftentimes capricious. I expect to meet with opposition to the system, in proportion as it is calculated and proved in its development to be the means of extending knowledge amongst the people; and of enabling them to analyze and judge the reasonings of those who have hitherto had the exclusive privilege of being considered the learned class. And as in the United States, as in every other country, there exists a class who are not producers, but who live by, and enjoy the fruits of the labor of those who are producers, while I respect their erudition, I am not inclined to leave to them alone the acquisition of learning, but desire to make their fellow-citizens, also, their fellow-sharers in the blessings of knowledge. It is requisite, therefore, that my preparatory school should at first exclude all instruction which is beyond practical utility, and be confined to useful acquirements.

I have stated that the practice of Agriculture in the United States is so essentially different from that of Europe, that whoever would attempt to introduce, at once, the latter into this country, will make an abortive effort, and an unprofitable speculation. The founder of an establishment such as I propose to your view, must, therefore, the plough in hand, commence by learning himself the practice of this country;—and I have, accordingly, engaged to assist me, a person well known to some of the gentlemen present, who has had large experience as a practical farmer in great Britain, and the result of whose efforts in a ten years superintendence and management of land in the U. States can be witnessed in this immediate neighborhood, and exhibits a striking contrast to the tracts adjoining that on which he has applied his skill and labor. My attention will be devoted to obtain certain results as to the following points:

1st. To study the quality of the various soils of the District, and to ascertain the proper course to give them the highest degree of fertility of which they are capable, by mingling their substances with other materials. I shall thus discern whether the mode adopted at Hofwyl, under nearly similar circumstances, may not be also adopted in the District, and whether we may not obtain a double surface by deep ploughing, and improve the soil by giving back to it more than we draw from it.

2d. To endeavor to substitute for the present very deficient management, a better mode of producing compost or manure—we should have to examine the pasture grounds, and the stables of cattle, and ought to proscribe entirely the practice of turning them out through all the year, summer and winter, day and night, to roam at large unsheltered and unhoused—this course injures their health and wastes their dung. We should seek to erect sheds, weather-tight and durable, at small cost, whereby we should save every particle of manure, and by keeping the cattle in a constant state of cleanliness, contribute most materially to their health and to the value of their produce or their labors. And further, experiments should be made to produce the greatest amount of artificial manure of a quality most desirable for the soil to which we propose to apply it.

3d. We must observe and ascertain the simplest, cheapest, and most efficacious mode of irrigating the land, whether by the proper application of the various streams so frequent in almost every tract, or by the construction of hydraulic machines, within the art of the farmer himself to fabricate. I cannot but think that this is a most essential mode, and that the earlier its adoption takes place, wherever suitable supply can be had, the greater will be the improvement, and especially is such improvement desirable and attainable in this neighborhood.

To the foregoing objects must our agricultural activity be devoted during the existence of this preparatory school,—and surely it is an object of no small importance to reduce to an absolutely practicable character the improvement of the agriculture of the country, and to attempt to secure the desired results. But before I can teach the theory, I must, myself, perfectly know and comprehend the present American practice of Agriculture—and I must candidly state, that I have not yet had the opportunity to study it further than to discern the immense difference existing between it and that of Europe. To enable me to try the establishment I propose, I should need a farm of from 20 to 60 acres, at a moderate rent—or the payment of the taxes on which, and the improvement I trust, and feel it my personal interest to make in the land, would be considered a satisfactory compensation.—I can establish the reputation of my school, and secure my personal advantage, only by successful efforts and well conducted permanent improvement. Does not then the owner largely participate in the benefits? To aim at the immediate establishment of an entire Hofwyl institution, even on a small scale, is at first impossible, even had I a million of dollars at my disposal; for such teachers as the system requires would be wanting, and I must decline calling to my aid mere pedagogue journeymen, who look more at the salary than the object of the teaching—for I shall, as I progress with the institution, myself supply the required teachers.

In the preparatory school it will not be in my power to admit the poor, for I shall be without the means to do so, and as these could be acquired only by an association of donors, loaners, or stockholders, I should thereby lose that independence so indispensable to the well being and success of the school. I must try another mode. I find it in a preparatory school for teachers and for that class of society who are able and are willing to pay an annual remuneration, and to pay the same half yearly in advance. It is desirable that this meeting who have competent knowledge of the rates which would meet the views of this class, should fix upon them—and I repeat, I desire not to collect money, but to merit it by the establishment and well conducting of the institution. This remuneration being fixed, ten pupils would be required to open the preparatory school, the parents of whom should select from amongst themselves one and myself another member, to form a committee, whose duty it should be to decide whether the son of this or that mechanic or farmer may be admitted to the school at a lower rate than the established price—and who ought to pay quarterly in advance, one half in money, and, if he so desire it, the other half in produce, labor, &c. at the current rates of the day. As soon as the number of pupils paying the established rate shall rise to 20, I would propose to admit gratuitously, subject to the decision of the committee, one poor pupil for every five—and when to 30, one for every four of those who pay.

Those who desire to receive instruction to qualify them for teachers, will, in addition to the course common to all, receive the particular lessons required for their object, and it is wished that this meeting would decide upon the sum which they also ought to pay for their admission.

The pupils must be not less than 10 years of age, able to read and write tolerably; the young teachers should be 17 years of age, able to read and write correctly, and be provided with a testimonial of their good moral conduct, signed by the chief magistrate of the town from which they come. The pupils will be found in board and washing, and treated with care; they must be sound in health, and will be expected to provide themselves with mattress, bedding and clothing. A simple but not expensive uniform, the same for both rich and poor, to be provided at the charge of the parents—who will also be charged with the cost of the books, stationery and mathematical and philosophical instruments provided for each of them. Whether a daily Normal school should be opened, is a question which I could not now decide.

All correspondence of the pupils, except that with their parents, must pass through my hands; and I must not permit, without first conferring with me, that books or other presents should be given to the pupils. I must prohibit entirely all presents, made to the teachers whom I admit, while the pupils remain with me. Parents are admitted at all times to the school, and the lessons will be public; so that every visitor who conducts himself in a respectable manner will be received with pleasure, having first presented himself to me, or to the teacher who may be the tutor of the day, in order to he introduced into the school room without disturbing the scholars. Except at the vacations, or in cases of great emergency in their families, pupils cannot leave the establishment. But they may, at their option, remain during the vacation without extra charge, unless they participate in the excursions during the recess, which they may do, the expenses of which being confined to strict moderation, will be borne by their parents. It is proper I should know the amount of pocket money which each pupil brings with him, or is furnished to him during the term.

The expulsion of a pupil rests on the decision of the committee, but can be the consequence only of repeated proofs of incorrigibility; or if parents interfere in such a manner as to injure the principles on which the institution rests or to impair its general discipline.

The course of Education will be

1st. The modern languages, French, German and Spanish, where desired;—every one will be taught English, and the natural mode will be followed, which commences with practice and then proceeds to the rules of grammar. In this manner two or at most two and a half years suffice to learn these languages perfectly. The ancient languages will not be excluded—and such parents as desire it will express, in writing, that they wish them to be substituted for the modern. In that case I shall commence with the Greek, and endeavour to reduce the time of learning them as far as is consistent with their effectual acquisition. I repeat that I propose to admit only such instruction as tends to general utility. Greek and Latin are useful only for one, fortunately not the most numerous class of society, viz: the so called learned professions. The rich stores of ancient writers shall not be withheld from those who do not study the languages in which they were composed—for I propose to devote daily an hour and a half to reading the best translations of the works of ancient authors.

2d. Mathematics, including a special practical course, to which may be admitted young men not belonging to the establishment, provided their moral deportment is unobjectionable. A course of three years, I judge, would be required to perfect in Arithmetic, Algebra, Geometry, (and perhaps a summary of Mechanics,) Natural Philosophy, theoretical and practical, and Geography.

3d. Natural History, as mentioned in my second lecture, and attention will especially be directed to the Natural History of the United States;—Chemistry, so taught as to lead the mind of the pupil to new researches, accompanied by such practical manipulations as shall lead him to appreciate their true value in the pursuits of life. Analysis, so essential to enable us to discern in every thing its real utility, and to guard us against the delusions presented by brilliant phrases and elegant sentences conveying but little sense.

4th. History: so much has been said on that branch, in the second lecture, that to dilate on the pleasure and benefit derived from attentive reading of it, would be superfluous. Let me, therefore, only indicate the order in which it should be attended to. The history of the people of Asia, Africa, Greece, Rome—of the middle ages down to the discovery of America, and thence to our time, should be treated in such manner as may enable the pupil to read with profit the best historians of antiquity and of modern ages; but the history of America should occupy a large share of attention—for in it we trace the progress of social institutions and their history, that the pupil may be conversant not only in the events of his country, but also in the more interesting, and, to him, much more important affairs of the United States—a knowledge which will make him a good patriot and an enlightened citizen, who knows his duties and estimates his rights, defending the one and executing the other—discerning and electing for his representatives in the councils of the nation one of his own class, from amongst his friends and immediate neighbors, and discarding such as might be unfit to represent his feelings and needs, or to take a share in the direction of the common weal.

(From the Mobile Commercial Register.)

GAMA GRASS.

Mr. Editor:—Some years ago, say four or five, I read in the Washington City, and some other public Gazettes, an account of the singularly valuable properties of a *Grass*, found in the south west, and principally through the provinces of South America, called by the Spaniards the "*Gama Grass.*" I think some time ago a communication appeared in your Register on the subject of this grass, or an extract from the communication of some Spanish gentleman. On reading in the Washington city papers, however, a communication from a distinguished citizen of Maryland to the Agricultural Society, I determined to procure, if possible, the seed of it, and to ascertain whether or not it would be found to exhibit in Alabama, and its *climate* and *soil,* the same valuable qualities.

From the communication before mentioned, a *Doctor Hardeman*, of Missouri, was stated as the gentleman to whom the country was indebted for bringing into notice and usefulness, this valuable vegetable acquisition. The Doctor was not unknown to me as one of those few minds who can blend together a fair and manly pursuit after the good things of this life, with that happy degree of philanthropy which cannot be satisfied without adding something to the *general stock* of human comfort and happiness—and the antipode of those who can wrap themselves up in the slazy web of *self*, and contemplate every thing through that (to them) *delightful* medium. I learned that his *patriotism* was equalled by his *liberality*, and I wrote to him my desire to *give to this section of the Union* the advantages, if possible, attributed to this valuable plant.—On the receipt of my letter, he immediately forwarded me, by mail, the remaining few seeds he had left, and which on receiving, I quickly planted, and I now view it as a remaining duty to the public, to put them in possession of the result, which fixes in my opinion the character of this plant, *to this section of the Union* as almost *invaluable*. To the citizens of your *town* and *vicinity*, I am assured its value can hardly be calculated.

On receiving the seed, say in *March*, early, I planted them in a small bed, by drilling, placing the seed about six inches apart. They came up in a few days, and appeared in the form of young *oats*. On getting about six inches high, I took them up after a rain, and set them, agreeably to the Doctor's directions, in rows, *two feet* apart, and *eighteen* inches from plant to plant, in *sandy pine land slightly manured*. The *rapidity of their growth* astonished me, and I found by *September*—each plant, a *bunch of fine blades*, and the ground completely covered, and the spaces filled up—the grass *three and a half to four feet high*. I kept the ground loose and clean, between the plants.—Early in September it was cut, and in taste, resembled young *corn* blades—a taste, of all others, most agreeable to animals. I found every thing was prodigiously fond of it, especially *horses* and *cattle*, and that it was a *dry grass*, with little *succulence*.

The following spring, *early*, the ground was stirred between the plants, the roots of which were now about four inches in diameter, resembling the root of sugar-cane. A small quantity of manure (cow) was sprinkled over the ground, in December following, and by the *first day of May* it was *four* feet in *height*, a mass of blades, rising from the roots, and standing almost perpendicular, exhibiting a most beautiful appearance of vegetable luxoriance. It was cut on the *first day of the month*, and *regularly* on the *first day of every* month until November; ranging from *three and a half to four and a half feet in height*. Single roots produced from twelve to thirteen and a half pounds of grass at *a cutting*, and which when fully cured produced from five to five and a half pounds of the most highly flavored hay I have ever found, and *readily* cured. The last year gave a most decisive proof that it is hardly affected by *drought*, its production being equal to the previous year,—and the last winter, that our severest cold does not affect the roots, now about *six inches diameter*, penetrating the earth, perpendicularly to a great depth.

A most accurate *cutting* and *weighing*, has determined, that an *acre* will yield (of pine land manured) from *two hundred to two hundred and fifty thousand* pounds of green grass during the summer, or from *seventy-five to ninety tons of hay*, and of the most *nutritious* kinds known upon the earth. By a reference to the Washington city papers two or three years back, it will be seen that a distinguished *farmer and iron-master*, states, in a public communication on the subject of this grass, that he found on trial, such was its nutritive qualities, that his *mules* performed their work *well*, with plenty of this *grass* and *salt*, rendering the addition of *corn* unnecessary. I discover that it comes to *maturity* one year sooner in this section of the Union than in *Maryland* or *Missouri*. The second year I found a *few seed* stalks, and the third, say *last year*, I gathered the seed, a part of which I send you for distribution amongst some of your enterprising citizens, who will not forget to "*go and do likewise.*" In the communication before referred to, it will be found the estimation was, that "*one acre was fully competent* to the support of *twenty head of cattle during the summer.*"—That it would be admirable for the production of *milk* and *butter*, there cannot remain a doubt, and that a little attention to its cultivation would preclude the necessity of purchasing *northern* hay, is as plain, as that it would add to the comfort and general prosperity of the whole community. Amongst the citizens of many of the *South American* states, it is held in an estimation equal to the *Guinea* grass of the *West Indies*, but is certainly far superior in value. The duration of the roots I have not learned,—mine are putting out most vigorously this *fourth year*—a singularly valuable property, different from most other grasses is, that when the *seed* is ripening on the end of the seed *stalks, six to eight feet high,* the mass of leaves appears not to undergo any *change*, and it may be cut immediately after the seed is all gathered, say by the middle of *June*. The seed is formed, making a jointed appearance at the end of the seed stalk, ripening and falling off one seed at a time. They must be watched and gathered *daily*, as different birds appear to watch for them.

Should the cultivation and possession of this plant prove a source of additional wealth, and add to the welfare of the citizens of your vicinity, I shall congratulate myself for my own good fortune in being instrumental in producing so desirable a circumstance. I shall forward an additional parcel of seed this summer. Respectfully, your ob't servant,

Agricola.

(From the Tuscarawas Chronicle.)

IMPORTANT TO FARMERS.

The following letter from Judge Bates, of New York, to C. Deardorff, Esq. of Dover, contains so many useful remarks on a subject, in which the farmers, not only of this county, but throughout the state, are so deeply interested, that we deem its publication absolutely necessary. The opportunities afforded to the writer, as chief engineer on the Ohio Canal, of being acquainted with the nature and character of our soil, added to his own practical experience as an agriculturist, give his observations an additional claim to our attention.

Rochester, N. Y. Jan. 7, 1831.

Dear Sir,—From the commencement of my acquaintance with your state, I drew an opinion that the interests of Ohio and New York, were intimately connected; and that the course of improvement going on in Ohio, combined with that already completed in New York, would eventually open to the citizens of your state, a market for their surplus produce, which they had previously been almost under the necessity of throwing away. I am now, more than ever, confirmed in that opinion, from the actual experience gained in the year which has but now closed. Your products of wheat, hemp, pork, tobacco, and other articles, find a ready and sure sale, without incurring exorbitant expense. The agriculturist may sow, and from the fertility of your soil, and the geniality of your climate, if he does, he is sure to reap, and not only sure of that, but from the facility of intercourse, he is as sure of realizing a fair value for the result of his labor.

As a proof of this, please to observe, that between two and three hundred thousand bushels of wheat have, during the past season, been purchased in, and shipped from Ohio; and in addition, as much, perhaps, as fifty thousand barrels of flour.

It is found to be a fact, that the greater part of the wheat raised in Ohio, is of a quality inferior to that which makes the first rate flour. This is not owing to want of proper virtue in the soil, or to any unfriendly peculiarity of climate; but is attributable to the quality of wheat sowed, and, in many instances, to a practice of permitting the crop to stand in the field till it is dead ripe, before the sickle is applied. Much of the wheat which has lately been grown in your state, and found its way to this market, has been manufactured here, and the flour sent into the New York market, where, I am sorry to say, some of it, under the rigid course of inspection there pursued, has been disgraced.—This is a circumstance which has not happened to the flour manufactured from the wheat grown in this country. Some millers who have manufactured and sent into market the flour of the wheat of your state, indiscriminately, with the flour made from the Genessee wheat, have had the mortification to have their brands condemned, and their high character partially diminished. Others who have taken the precaution to grind and send it unmixed, have only been able to obtain for it the character of second brand superfine.—The inevitable result will be, that your flour must go into the market with a lower character than ours, to wit: second rate superfine. This circumstance, acting on a whole people, and that people so respectable as the inhabitants of Ohio, must be extremely unpleasant, as well as unprofitable. Our best farmers, to enable them to furnish wheat of the finest quality for the mills, are particularly careful in the selection of their seed. They seldom allow themselves to sow more than two or three years in succession, the same seed, which was raised on the same farm. They change often, and always gain by it, both in weight, measure and quality. Some take the precaution to obtain their seed from a great distance, and always find their account in it. I would suggest the idea of pursuing the same course amongst you; I would even take the liberty to advise you to send to this country for your seed. I have observed that seeds of many kinds, are improved by transfer from a northern to a warmer climate, and deteriorated by a contrary course. This may be said to be particularly the case with wheat. The wheat grown in the Genesee, Seneca, and Cayuga counties, has long been acknowledged to possess a decided pre-eminence of character. The change under the present facilities of intercourse, can easily take place; and, should it, you alone would be the gainers. The Genesee wheat, amongst those I have mentioned, bears perhaps the highest character. The kinds most sought after here, as the best, and producing the best flour, are the flint wheat, the bald red chaff wheat with a white berry, the bearded red chaff wheat with a white berry—and perhaps some others. All these kinds can easily be procured. The flour produced from them is of a mellow yellowish hue, and soft feathery feel. That produced by the Ohio wheat, of a bluish white, and somewhat harsh sandy feel, subject to be, under the most careful course of manufacturing, mixed with dark, or black specks.

I have no interest in any mill or establishment for the purchase of wheat or flour; but still feel an anxiety that your productions should be as good and as fair in market as they can possibly be. I have no idea that a change can be brought about instantly; but if only a few would adopt the practice, a short time would show the utility of it, and the community at large be benefited.

Some wheat has been obtained from Geauga, Huron and Seneca counties, which can be called first rate. The grain from any other counties may be made as good. The wheat from Michigan is superior to that from Ohio; their seed was obtained almost wholly from this state.

I am, respectfully, yours, &c.
David S. Bates.

GYPSUM, OR PLASTER OF PARIS.

History informs us that the utility of Gypsum for grass, was first discovered in Germany by a laborer at the quarry, passing across a meadow to shorten the distance home, discovered the luxuriance of grass, where he had travelled, and imagining that the dust of Gypsum from his clothes must have been the cause, tried the experiment, and the event answered his expectations.

Some time after, a keg of it was sent to America to Mr. Jacob Barge, of Philadelphia, and it soon came into use in that part of Pennsylvania, where they value it very highly, and even suppose that the hay is better which is produced by it.

It is, however, said that Gypsum will not promote vegetation so much near the ocean, or in any place where it can be decompounded by particles of sea salt. That may be so, yet it has sometimes done well near the sea in dry seasons, and its effects are not so visible any where in wet seasons. My own practice has been 17 miles distant from Long Island sound, where my first use of it, far exceeded my most sanguine expectations.

In the spring of 1796, I sent to New York, and obtained a barrel of Gypsum which had been imported from France, and in May and June sowed it on different soils, and several kinds of crops, and it produced wonderful effects generally. I put some of it on Indian corn after the first hoeing, and left five rows through the middle of the field which was not plastered, which did not produce more than one, on either side, owing in some measure to the grubs having left the corn, where the plaster had been used, and gone on to those five rows, which some miles distant, looked like a road which had been cut through a wood, for the corn was exceedingly poor, and from 20 to 50 grubs under each hill, and not a grub to be found under the hills which had been plastered.

The flax and potatoes were much benefited by plaster, but the wheat, rye, barley and oats did not show the benefit much; yet the grass was visibly better some years after the crops were taken off.

The utility of Gypsum appearing so manifest induced me to use it freely, and the next spring sent corn, cider, &c. to Passamaquoddy and bought 10 tons. I used the greatest part of it the same year. I generally put about three bushels on an acre at that time, because they used as much as that on an acre in Pennsylvania, but two bushels are thought now to be sufficient.

A whim has gone abroad that it injures land, but the encylopædists say that it does not, more than stable manure.

They have used it in Pennsylvania more that 60 years, and still value it highly as a manure. It has been used near 40 here, and yet we have many farmers among us who choose to be half a century behind others in improvements, who have not yet ventured to try it; but as it is now plenty and cheap, I would advise farmers at least to run the risk of trying it.

Those who have used it plentifully and repeatedly on the same lands will not find so much benefit by using it again, as they did at first, yet it is a good manure, even in those cases. I have not generally used the Gypsom oftener than once in 6, 8 or 10 years on the same land, unless it might be a little when the land was tilled, to roll the grain in, or a little to put on it, not exceeding one bushel to the acre.

We have generally rolled Indian corn in it before planting, after soaking it awhile in tar water, which is made by putting half a gill of tar into two gallons of water, or in that proportion, stirring it well, just to make the water a little sticky, and the plaster will adhere to the kernels much better, and the birds and insects will not meddle with it; (too much tar may prevent vegetation.) We then put on from half a bushel to a bushel of plaster on an acre, after the first hoeing, and the crop will generally be doubled by using the plaster, unless it be in a wet season, when the difference will not be great; yet you may see where the corn hills were, some years after the land is laid down to grass. Some say it is best to sow a bushel on an acre of grass-land every year, but its effects being visible several years, I have not practised in that way.

The Nova Scotia Plaster is not all of it equally good or even that which is brought from France, but the imported is the best; yet the difference is not great, and as the Nova Scotia is the cheapest, I generally use it, unless when we send to New York for it, we buy that which was imported.

It ought to be ground in fair weather, and sowed soon after grinding; or else it may become clammy and need washing or running through the mill again. Still damp weather is the best for sowing it, that it may not blow away; and it will sow better, and last longer; if it is not ground excessively fine. It may be sown in spring or autumn, but vegetation ought to have time to come forward before it is sown. Its effects will be most visible on land which has been recently laid down to herds-grass and clover; but if it is mowing ground, it is best to mow it once before the Gypsum is put on, for fear it may make the clover lodge down, but the second year the herds-grass will support it. It is well to sow it as soon as the hay is taken off, for it will collect moisture, and keep the land from being parched from the intense heat of the sun, which is often the case at that season of the year.

It is sometimes sown on old sward where it cannot well be ploughed, though it will not do much the first year or two, yet the second or third year it will show itself, and make the grass thick and heavy, and continue to help the land several years. It will do the most good on land which is in pretty good order. It will not make poor land produce luxuriantly, especially after grain is taken off.

When clover seed is sown clear from the hull without covering, it ought to be rolled in plaster, and it will keep it moist, and help vegetation.

[*Middletown Sentinel.*

HORTICULTURE.

INGRAFTING.

Ingrafting is a process by which one tree is made, by uniting with another of the same species, to change its flowers, fruit, woody fibre, and leaves, and to remain and retain its new form, without any change or effect, from the stock; except some trees are dwarfed, by grafting on stocks of slow and diminutive growth, pears on quinces, apples on paradise and crabs, &c. but in no case is the fruit in any way, as to flavor or color, controlled by the stock, but it remains a mere passive agent, sending up its supply of sap, which by some inscrutable operation of either the wood vessels, or the action of the leaves, is manipulated into fruit, whose flavor, contour, and colour, are as different as any two opposites in nature.

That a simple blossom bud inoculated into the bark of a different variety, where the sap cannot pass the one hundredth part of an inch through the vessels and organs of the inoculation, before it reaches the bud, should be so radically changed, as to cause it to produce the first year, a fruit perfect after its own kind, is one of those occult operations of nature, locked in the arcana of inscrutability, beyond even the reach of human reason or analysis.

We do not intend to make a pathological essay on this subject, but a plain matter of fact description of the most approved method of performing the operation, as the season is fast approaching, when those who wish to have the advantage of the cultivation and perfection of those fruits which the toil and experience of ages have brought to their present state, for ten minutes easy work, should be up and doing. It is so easy, that no man who has sufficient mechanism in his composition to make an *ox bow-pin*, should hesitate to try his hand at it.

Cions should in all cases be cut before the buds expand, and in all cases he set after they fairly start in the stock.

This is a general rule, although it will sometimes succeed under totally reversed circumstances.

Cions should be kept in a cool place, on the ground in a cellar, or buried in the earth, so that they lose none of their original freshness and vitality.

A saw, chissel, a stout and sharp grafting knife, and grafting clay or composition, are all the materials that are required.

Cleft grafting.—This method is the oldest, and most generally followed in this country, and for those sized stocks, which are not so large as to refuse to open for the cion, perhaps the best. It is performed by cutting off the stock, smoothing the end and spliting it down some two or three inches. Cut the cion in the shape of a thin wedge with a shoulder on each side; this is inserted bark to bark, until the shoulder sets upon the end of the stock. It may be quartered or halved, so as to take two or four cions, for greater security, into each stock, wind the end with flax or tow, and covered smoothly and firmly with the composition.

Crown grafting—Is used when the stocks are very large and unyielding, and is performed in the following manner. At a period when the bark will peel freely, saw off the tree within two feet or more of the ground, at about four places make a slit through the bark, as in budding, about two inches down, and carefully raise the bark on each side; cut the cion in the form of a wedge on one side only, with a shoulder to rest upon the stock; insert it under the bark, tie firmly and clay as before. In this manner they grow luxuriantly, and require supporting to protect them against the winds, the first and second year.

Saddle grafting—Is used where the stock is from two to four times as large as the cion, and it makes a fine scar and sound union. Cut the stock to the shape of an obtuse wedge, having the apex in the centre, or on one side; cut slits and raise the bark as in crown grafting. Split the cion in the centre, with a narrow sharp blade, smoothe the two prongs, and bring them to a nice thin point, not cutting the outside bark at all, and of the right lengths to straddle the wedge, and allow the points to enter under the raised bark of the stock, and the point of the wedge resting at the extremity of the split in the cion. It will make a better fit, to make with the thumb nail a partial break or bend in the branches of the cion, where it turns the angles on the stock.—Tie and clay as before.

Whip, whip-saddle, and tongue grafting—Are operations used when the stock and cion are of a size for nurseries; or where the small limbs of a whole top are to be altered. The whip method is simply to slant off both parts, as a farmer would splice a wooden whip stock, and tie them firmly with bass matting, cotton, candle wick, or flax. The *whip saddle*, is to form the stock into a thin wedge, and the cion to correspond with the bark joining at all points. *Tongue grafting*, is the safest and strongest of all these methods, where the stock and cion are of a size. It is performed by slanting both parts as in whip grafting, and then splitting both or one side of the pith, about half or three quarters of an inch, and inserting the tongues respectively, and forcing them together, till the cut made on each side is completely covered; tie firmly, and if covered with clay or wax will be more certain of succeeding.

There are various other methods occasionally practised by the curious; but we believe the above comprehend all that are necessary or useful.

There is another process used sometimes, which partakes partly of ingrafting, and partly of inoculating, called *scallop budding*.—It is performed thus:

At any time when the sap is rising, and the bark will peel, take a bud from a cion previously cut, or if at a later period, take a bud of the present year's production, cut it from a rather largish limb or twig; cut it as in budding, only cut deeper, taking out more wood, which is not to be removed; then in the stock cut a place as exactly as possible like the place in the twig, from whence the bud came, so that when placed on the spot, it shall again make it whole, and cover the wound; bind it on, either by tying with some kind of string, or what is better, a narrow waxed cloth, with a hole cut for the bud. If the top of the stock is shortened, it will grow the same year, and is a very safe way of budding on large and old stocks, whose bark will not cleave, and is thick and unyielding to the bud in the common method.

The rose bush may have its flowers changed the same year, by this process, on which it is a very certain operation.

The grafting clay is made, by thoroughly beating two parts blue or brick-maker's clay, one part leached ashes, and one part fresh cow or horse manure—give a few days age, and several workings with the hoe or shovel.

Of inoculating or budding, we shall speak previous to the season of performing that operation. In the mean time we would suggest to those who are willing to try the experiment, to take some cions of the peach, pear, plum, &c. and bury them, or stick them like cuttings, deep in the ground, till the bark of the tree cleaves freely, and try if last year's buds may not be made to take and grow immediately, by shortening the tops, as if they were of the current year's growth.

As to the kinds of trees which will take upon each other, by grafting or inoculating, some directions may be necessary for new beginners. We shall therefore only name some of the common fruit trees which are known to do well when ingrafted upon others, leaving some disputable points for a more convenient season.

All kinds of apples take upon each other, as do quinces upon themselves and pears; but pears upon apples or quinces, or quinces upon apples or pears, do not thrive well, or apples upon quinces or pears do not thrive. Much time is spent yearly in useless experiments of this kind, and although each of the above kinds may be made to take upon the other, yet they never make good trees upon each other's stocks. Many kinds of cherries will take upon each other, but it is better to put those kinds of cherries which are generally denominated English cherries upon each other, as when put upon the common or Kentish cherry stock, the cion is apt to outgrow the stock. There is also a small wild red cherry, which grows wild, upon which the English or heart cherries take very well, but they do not take upon the Black cherry of our forests, or upon the choke-cherry.

Most kinds of plums will take upon each other, and we think grafting them is preferable to inoculating them.

Peaches, nectarines, apricots and almonds, are more difficult to graft, but will all take upon each other.

Gooseberries and currants will take upon each other, by grafting or budding, but as they grow freely from cuttings, they are commonly propagated in that way.

The above named fruits compose most of our valuable ones, and as stocks of most of them are to be procured at cheap rates, we would recommend to new beginners, to confine themselves to these at first. After they have become acquainted with the fundamental principles of Botany, there will be little danger of their being led astray by the strange stories of the ignorant. They will then find that trees must belong to the same *class* and *order* before they can be grafted upon each other with success.

[*Genesee Farmer.*

(From the Genesee Farmer.)

CULTIVATION OF PEAR TREES FROM APPLE TREE STOCKS.

After several unsuccessful endeavors to obtain pear tree stocks, I succeeded in the following manner:

About the middle of August, 1825, H. Fellows, Esq. of this town, obliged me with the buds of several choice varieties of the pear tree, which I inserted into apple tree stocks, as near the roots as practicable. In April, 1826, I took them up and cut off the stocks about an inch above the buds, then transplanted them with buds about four inches lower than the surface of the ground and covered the roots leaving the buds uncovered, the earth forming a basin around each of four inches in depth.—As soon as the pear trees had grown about a foot in height, I began raising the earth about them, a small quantity at a time, till it became level. In the spring of 1829, several of them were as large as I chose to set in an orchard, say two inches in diameter and seven feet in height, with sufficient pear tree roots. But some of the rest had grown but little. One of which measured but three-fourths of an inch in diameter, and twenty-seven inches in height, and (to my surprise) produced more than thirty blossoms, but it produced no fruit. I then excavated the earth around it, and found it had no pear tree roots. I then made three or four incisions near the bottom of it, peeling up a small strip of bark at each place, and replaced the earth. It is now seven feet in height, and has sufficient pear tree roots. S. BARKER.

NEW ZEALAND SPINAGE.

Having raised the New Zealand Spinage the last summer, we cannot but recommend it to those who are fond of spinage dishes, during the summer months. It is a very luxuriant growing annual plant, with thick succulent leaves of beautiful green colour.

The seed of this plant should be sprouted in a hot bed, in order to have it fit for use before the middle of summer. The branches are decumbent and spreading to the distance of two feet from the roots, which is a suitable distance for setting the plants from each other.

After the plants have grown about a foot long, the tips of the branches may be cut for use; they will be found very tender and well flavoured. It continues growing very luxuriantly until killed by the frost. The seed is produced at the *axils* of the leaves. Eight or ten plants will be sufficient for a large family, both for producing seed and for boiling.

[*Rochester Ad.*

RURAL ECONOMY.

MILCH COWS.

The attention of farmers is invited to the consideration of the character and condition of our milch cows.

How much milk ought a cow to yield to be worth her keeping? What is the average time that our cows are in milk? Is there much, if any, waste of fodder among us by keeping animals that yield little or no return of profit?—Questions like these, and there are many such, ought to be put and answered in the New England Farmer. It may turn out that our dairy stock is extremely low in character and its management wasteful.

If something like an average quality of milch cows could be settled—to effect a standard—and it should be understood that no good farmer would keep an animal for milk that fell below it; all the cows in the country would soon come up to that standard and go beyond it.

A milch cow of *medium quality* in this state will give, it is supposed, 12 quarts of milk per day for two months after calving, and about 7 quarts per day on grass feed for the next four months, and four quarts per day for the next following two months, and perhaps 2 quarts one month longer. Altogether 1500 quarts in a year.

It takes 9 quarts of milk to give a pound of butter, and 4 quarts to yield a pound of cheese. The skim milk and dairy *whey* may be valued at $3 a cow per annum.

Now, a cow that gives 1500 quarts of milk in a year, will produce 166 lbs. of butter, worth at 16

cents per lb. - - - -	$26 56
Skim milk, say - - -	3 44
	$30 00

Nothing is said of the worth of the calf, as all the milk the cow gives is credited.

A milch cow's keeping one year cannot be short of 25 dollars in the interior.

Suppose a farmer to resolve that he would keep no cow that did not hold out as a good milker 9 months in the year—and that did not give sixteen quarts of milk per day for 2 months after calving, and 12 quarts per day the next 3 months, and 2 quarts per day the month following.—Such a cow would yield per annum 3000 quarts of milk.

Here it may be remarked, that with the addition of five dollars per annum to the cost of food as estimated for a common cow, the neat profit would probably be four fold.

Is it not practicable to have throughout the country, as common dairy stock, animals as good as the last described?

This question is submitted to farmers for consideration. The probability is that in taking some pains to get stock as good, they would get even better.

If the various modes of obtaining this object were resorted to at once and with zeal throughout the country, there would be a prodigious improvement in a very short time. No young animal of promising appearance for milk would go to the butcher. More care would be taken of young stock. More young stock would be retained to insure a better selection for milch cows. Farmers would think more of the advantages of employing bulls of the improved breeds. Heifers should be milked with great care and very thoroughly, to get them in the habit of holding out as long milkers. If they once dry early, no care and keeping afterwards will correct this fault. Heifers with the first calf will be fed well with some additional care the last three months they are in milk, to make them hold out.

The profit of a milch cow is not generally understood. Milk is not only the most nutritious but cheapest article of food. The food necessary for a cow in full milk, does not exceed in price, one third of what is necessary in feeding for the butcher.

These few remarks are hastily made to draw out farmers, and particularly scientific farmers, on this subject. There is a great many facts to the purpose, which should come to light. [*Working Men's Adv.*

(From the New England Farmer.)

SPAYED COWS.

Mr. Fessenden,—Some years since, I passed a summer at Natchez and put up at the Hotel then kept by Mr. Thomas Winn.—During the time that I was there, I noticed two remarkably fine cows, which were kept constantly in the stable, the servant who had charge of the horses, feeding them regularly, three times a day, with *green Guinea grass*, cut with a sickle.

These cows had so often attracted my attention, on account of the great beauty of their form and deep red color, the large size of their bags and the high condition in which they were kept, that I was at length induced to ask Mr. Winn, to what breed of cattle they belonged, and his reasons for keeping them constantly in the stable, in preference to allowing them to run in the pasture, where they could enjoy the benefit of air and exercise, and at the same time crop their own food and thereby save the labor and trouble of feeding them? Mr. Winn in reply to these inquiries, stated, that the two cows which I so much admired, were of the common stock of the country, and he believed of *Spanish origin*—but that they were *both spayed cows* and that they had given milk, either two or three years.—Considering this a phenomenon (if not in nature, at least in art,) I made further inquiries of Mr. Winn, who politely entered into a very interesting detail, communicating facts, which were as extraordinary, as they were novel to me, and supposing that they will prove equally as interesting to your numerous agricultural readers, as they were to me, I am induced, on the request of a friend, to offer them for publication in your very valuable journal, in the hope, that some of the farmers who supply our large towns with milk, will deem them of sufficient importance, to make experiments for the purpose of ascertaining whether the results which they may obtain, will corroborate the facts stated by Mr. Winn, and which, should they be fully confirmed, may lead to great and important benefits, not only to farmers, but to tavern-keepers and other inhabitants of cities, and villages who now keep cows, in order that they may be sure of a constant supply of *pure* and *unadulterated* milk.

Mr. Winn, by way of preface, observed, that he had in former years been in the habit of reading the English Magazines which contained accounts of the ploughing matches which were annually held in some of the southern counties of England, performed by cattle, and that he had noticed that the prizes were generally adjudged to the plough-men, who worked with *spayed heifers*—and although there was no connexion between that subject and the facts which he should state, it was nevertheless the cause which first directed his mind into that train of thought and reasoning, which finally induced him to make the experiments which resulted in the *discovery* of the facts which he detailed, and which I will narrate as accurately as my memory will enable me to do it, after the lapse of more than twenty years.

Mr. Winn's frequent reflections, had (he said) led him to the belief—"*that if cows were* SPAYED *soon after calving and while in a full flow of milk, they would continue to give milk for many years, without intermission or any diminution of quantity, except what would be caused by a change from green to dry or less succulent food.*"

To test this *hypothesis*, Mr. Winn caused a very good cow, then in full milk, to be *spayed;* the operation was performed about one month after the cow had produced her *third* calf; it was not attended with any severe pain or much or long continued fever; the cow was apparently well in a few days and very soon yielded her usual quantity of milk and continued to give milk freely, for several years, without any intermission, or any diminution in quantity, except when the feed was scarce and dry—but a full flow of milk, always returned, upon the return of a full supply of *green food*.—This cow ran in the Mississippi low grounds or swamp, near to Natchez, got cast in deep mire and was found dead.—Upon her death, Mr. Winn caused a *second* cow to be *spayed*, the operation was entirely successful, the cow gave milk constantly for several years—but in jumping a fence, stuck a stake in her bag, that inflicted a severe wound, which obliged Mr. Winn to kill her. Upon this *second loss*, Mr. Winn had two other cows *spayed*, and to prevent the recurrence of injuries from similar causes with those which had occasioned him the loss of the two *first spayed* cows, he resolved to keep them always in the stable, or some safe inclosure and to supply them regularly with *green food*, which that climate, throughout the greater part, if not all the year, enabled him to procure.

The result in regard to the two last spayed cows, was, as in the case of the two first, entirely satisfactory, and fully established, as Mr. Winn believed, the fact, that the *spaying* of cows, *while* in full milk, will cause them to continue to give milk during the residue of their lives, or until prevented by old age.

When I saw the two last spayed cows, it was I believe, during the third year that they had constantly given milk, after they were spayed.

The character of Mr. Winn, (now deceased) was highly respectable, and the most entire confidence could be reposed in the fidelity of his statements, and as regarded the facts which he communicated in relation to the several cows which he had spayed, numerous persons with whom I became acquainted, fully confirmed his statements.

At the time to which I alluded, I endeavored to persuade Mr. Winn to communicate the foregoing facts to the late Judge Peters, then president of the Agricultural Society of Pennsylvania. But he was restrained from complying with my request by an extreme unwillingness to appear before the public, and *peradventure*, his *discovery* might prove not to be new, as doubts in regard to the facts, might *where he was unknown*, subject him to some degree of ridicule.

The many and great advantages that would result to the community, from the possession of a stock of cows, that would be *constant milkers*, are too obvious, to require an enumeration.

Should gentlemen be induced from this communication, to make experiments, they will find it better to spay cows which have had several calves, rather than heifers, as at that age, their bags are usually large and well formed, and are capable of carrying a much greater quantity of milk (without pain and inconvenience,) than younger animals. Viator.

EXTRAORDINARY MILCH COW.

Mr. Fessenden,—As much has been said in your paper of the produce of extra cows, of the improved breeds, I send you the following as the returns given by a *native cow*, belonging to one of my neighbours, the correctness of which I will vouch for.

Stockbridge, March 15, 1831. S. Sergeant.

An account of Butter made by one cow for three years.

		lbs.	ozs.
From 8th April, 1828,	321 days	331	09
From 16th April, 1829,	284 days	293	01
From 5th April, 1830,	306 days	318	10
	911 days	943	04

The above is exclusive of 25 lbs. 9 ozs. made while fattening three calves, and furnishing a family of four persons with milk and cream. The cow was kept through the summer wholly upon grass; in the fall she was fed with the tops of cornstalks, pumpkins and potatoes, and in the winter with a small quantity of bran and cob meal.—*N. E. Farmer*.

(From the New England Farmer.)

BEES.

Mr. Fessenden,—In August of last year, a gentleman from Kentucky called with a friend to see me, and observing I kept bees, mentioned that a friend of his in that state had for several years kept them in a dark room in one end of his garret, (a brick house) with some small holes cut through to admit the passage of the bees; by this means he was saved the trouble of hives and swarming (which they never do as long as they have room to work in,) and that he could at any time go into the room (properly guarded) and take 10 or 50 lbs. of comb at a time. Early in December, I wrote a letter asking many questions, with an intention of giving to your paper the results of my inquiries, but presume, I did not get a proper direction, as I have not received an answer. During the winter I have made some inquiries, and reflected much on the subject, and herein give you an extract of a letter from T. W. Sumner, Esq. of Brookline, Mass.

"In the summer of 1827, a swarm of bees entered by a small hole under the shingled gutter which is on the top of the cornice of one of the dormer windows of my house; when in, they found abundance of room for working, and no one could disturb them, but by taking down the plaistered ceiling of my upper rooms. You will recollect my house has what is termed a gamble-roof; the space above the level plaistering, forms a flat triangle, of seven feet wide, twenty inches high, at least 60 feet long. I think had they not been disturbed, they might have worked twenty years.

"We did not disturb them, neither did they disturb us, till I took them up in January, 1829, on a very cold day. I took down the plaistering about a yard square under the comb and smothered them in the usual way with sulphur. We got 296 lbs. of comb, bread and honey. I have often regretted I did not try to propagate them, for honey in a family is a very convenient article."

A friend of mine as much as 15 years since, in taking a house to pieces in Boston, found a swarm of bees over one of the dormer windows in the garret, which he had carefully sawed off and secured and carried to Brighton, where he kept it several years.

I understand there has been in the roof of a house in Brighton a swarm of bees for seven years past. They have not had much room to work in, but will not be driven away.

All these circumstances had determined me to prepare a place in my barn, when your paper about a month since stated it was a common practice in Ohio.

I have made a tight closet of near ten feet square, and about six feet high in the centre, at the south-west end of my barn, immediately under the ridge-pole. The floor is about 25 feet from the ground and is approached by a fixed ladder from the second floor, and kept under lock. In this I have placed two hives purchased last season from Mr. Beard, from the interior of Maine, where as I understand they have not been troubled with the bee moth, I apprehend, from the great elevation of my bee-house, I shall not be troubled with them again, as I believe they do not often rise so high from the ground.

I have kept more or less bees for 20 years; till about six years ago, we were so much troubled by the bee moth that I gave them up. Last year I began again, in the hope, with some of the improved hives to succeed better, and still intend keeping some in the usual way near the ground. If the chamber plan succeed, of which I see no reason to doubt, we shall be saved a great deal of trouble, as we shall no longer be obliged to watch and hive them. I have put in some extra rafters, also a shelf and standards, to enable the bees more readily to attach the comb.

Any persons having a wish to see the mothod adopted by me, I shall be happy to shew it to them. The bees appear perfectly satisfied with their elevated situation.

I am somewhat apprehensive that a southwest aspect may be rather too warm in summer, and rather regret I had not put the room even at the northeast end of the barn. I should have preferred a southeast front, taking the morning sun and being cooler in the afternoon. I did not think there is any danger to be apprehended from severe cold, if they are only kept dry. Very truly yours, John Prince.

Jamaica Plain, April 11, 1831.

KILLING HOGS—CURING BACON.

Philadelphia, April 9, 1831.

To the Editor of the American Farmer:

Sir,—I would call your attention to the following paragraph, copied into a Philadelphia paper from the Cincinnati Daily Advertiser, and beg you would do me the favour, to publish in the American Farmer, the queries I shall submit on the same subject,—if by so doing, it shall appear to you, that not only a particular and individual, but the general interest is promoted.

"We saw on Saturday last, at the store of W. S. Smith, a lot of 100,000 lbs. hams and shoulders, cured by Mr. Heredith, which, both in appearance and flavour, (we speak experimentally,) will do credit to our city, (Cincinnati.) While on this subject it is due to Messrs. Hartshorne and Child, to say, that we have seen and tasted some very fine hams of their curing; but the largest lot of meat we ever saw, under one roof, was at the pork house of Mr. D. Ames, who has barreled and baconed *eight thousand hogs* the past winter! Mr. Ames has had several years experience, and his bacon stands high in the market."

I am not aware that in any part of our state, pork is put up in considerable quantities for market, but do know that many highly intelligent farmers, are much in favour of it, but are afraid to venture for want of information, principally on these two subjects—in what manner the most convenient and economical buildings should be constructed, both for the accommodation and slaughtering and curing five or ten thousand hogs—and what would be the most suitable, and at the same time, economical manner of feeding so large a number.

Sir, I take the liberty of proposing through the "Farmer," the following queries to Mr. Ames. He may not be able to answer all, but he would confer a particular favour, and I think a general benefit on this part of the country by answering such as he can.

If Mr. Ames raises his hogs, has he had any experience of different breeds, and which does he prefer? What this method of feeding, viz: manner, quality, and quantity? What building does he find most convenient for their accomodation? At what age are they killed? How long a time does it require to slaughter and put away 8,000 hogs? How many hands, and what accommodations has he for that purpose? Does he do it by contract, and what is the expense? What is the construction of the building or buildings, in which they are cured? and what means does he take to provide against accidents to the meat? How long after slaughtering does he send his pork to market?

Very respectfully, A Subscriber.

MISCELLANEOUS.

CAROLINA; OR, THE PLANTER,

BY GEORGE OGILVIE.

(Concluded from page 47.)

Nor are the Garden's beauties all conceal'd
By night, tho' Cynthia veils her silver shield:
Unnumber'd Fireflies from their slumbers rise,
Till earth's star'd surface emulates the skies;
As their quick sparkles light the welkin round,
Gleam on the leaves, or glow along the ground;
And ev'ry flow'r its brightest tints displays,
Illumin'd by the transitory blaze.——
But eastward see, where James's sacred Fane,
Crowns the green-hill that wide commands the plain,
O'er lofty pines, that the horizon trace,
The moon slow rising shews her ruddy face,
And bright'ning gradual, as her orb ascends
The azure vault, to which she radiance lends;
Through yonder forked tree her glories break,
In liquid silver, trembling on the lake.

From scenes of business, where the fetter'd mind
Is all to self and sordid cares confin'd;
From Bacchus' revels, and his noisy train,
Whose brutal joys oft flow from other's pain;
The mourner shrinks; checks with indignant care
The unanswer'd groan, and hides th' unpity'd tear;
But flies, impatient to indulge his grief,
And seek from sympathetic woe relief.
E'en from Otranto's peaceful scenes we turn,
To place a wreath on Rugely's* timeless urn.
Where Clermont's† Nayads weep by ev'ry rill,
That gurgling bursts from each surrounding hill.
Blest streams! when Rugely stray'd your banks along,
And to your murmurs tun'd his sportive song.

At wisdom's voice, when disappointment frown'd,
He sought Content—with you the nymph he found.
Beneath yon humble roof he woo'd the maid,
Who soon his vows with peaceful smiles repaid.
Whilst the wild landscape wav'd its native veil,
To bid the Muse and Agriculture hail.

By Rugely taught, the Woodman's fatal steel,
Restrains its rage, and learns from Taste to *feel;*
Spares the gay tree with gaudy blossoms spread,
Or sober beauties of the awful shade;
Where the primeval Oak majestic waves.
Here prudence dooms, and *yonder* genius saves.
The mountain's fertile base, and richer vale,
Stript of their woods, with harvest's promise swell.
Above extends a length of verdant glade,
No more a forest, nor depriv'd of shade,
Where flocks, and herds, and steeds promiscuous stray,
The parents grazing as the younglings play;
Whilst the tall summits, still imbrown'd with trees,
Repel the keenness of the northern breeze.—
Nor through the vale those streams unuseful wind!
In yonder dell, by potent banks confin'd,
Th' imprison'd waters yield to human law,
Float the huge raft, impel the lab'ring saw;
Bid the tall pine forsake its native plain,
And seek on buoyant floods the distant main;
Or, thro' the sluice, white foaming o'er the wheel,
Convert the husky grain to wholesome meal.—
And, had he liv'd to finish out his plan,
Had minister'd to half the needs of man.
Such useful works did Rugely's *day* employ,
The *even'*, he yielded to domestic joy;
To sweet convivial intercourse of mind,
When souls unbending relaxation find;
As friend to friend the rising thought imparts,
Approves when just—when false, th' objection starts;
Commends from flatt'ry, blames from rancour free,
Submits when wrong, and all when right agree.
The hospitable board too claim'd his care,
Replete with savoury, more than costly fare.
At Clermont still the nighted stranger found,
The table cover'd, and the goblet crown'd:
But does he prove the friend of former days,
What heart-felt joy the kindling eye displays!
Unnotic'd then the sparkling bowl might flow,
Beyond the rules that Cynic laws allow.
Then decent frolic shook the merry hall,
Then cheerful guests for festive songs would call,
And the kind host to please his friends submit;
His voice melodious—and his humour wit.
Love too smil'd bounteous under Hymen's wings,
And promis'd all the joy their union brings.
Promise untrue! that fleets to empty air,
And yields the changing scene to fell despair!
Love's noblest pledge the teeming fair bestow'd,
But death soon wraps it in the mother's shroud.
—Mild resignation Rugely's plaints restrains,
Whilst anguish bears him to their dear remains;
And, lighted by one fatal moon, we gave
The child and both its parents to the grave.—
O! may some Muse, congenial with thy own,
Assume thy praise, and make thy merit known;
From *all* thy worth withdraw oblivion's veil,
Nor let th' example through concealment fail;
But stimulate benevolence and taste,
With future Clermonts to adorn the waste!
Thy fame, creative Kershaw! too shall rise,
As thy own Camden's turrets pierce the skies!
And thine, industrious Locock,* bright remain,
Whilst madder yields the many-colour'd stain:—
Nor silent gratitude sees Garden's hand,
Diffuse the treasures of each distant land.
To him our fields, to him our orchard's owe,
The rarest plants that Ind' or Afric know;
And watchful bards shall nightly sing his praise;
Whilst his own Tallow-tree supplies the blaze.
Yes! yes, your names to nobler fame shall live,
Who to our land such peaceful treasures give,
Than theirs who, at Rome's capitol, bestow'd
The ensanguin'd trophy, and the plunder'd load!
And the exulting Muse foresees the claim,
Of many a candidate for *Rural Fame;*
Sees ev'ry winding Valley wave with corn,
Sees purple Vineyards ev'ry hill adorn;
Sees yonder Marsh, with useless reeds o'erspread,
Give to a thousand looms the flaxen thread;
And Hemp, from many a now neglected field,
Its sinewy bark to future Navies yield.
Nor shall Tobacco balk the Planter's hope,
Who seeks its fragrance on th'irriguous slope.
Around each field she sees the Mulb'ry grow,
Or unctuous Olive form the frugal row;
Beholds our hills the precious Thea bear,
And all the crops of Asia flourish here.
Each various earth th' enlight'ned Rustic joins;
Hot lime, loose sand, and cold stiff clay combines;
Until the chymic process yields him more
Substantial riches than transmuted ore.
Whilst the meand'ring aqueduct shall bring,
The cooling freshness of the distant spring,
To the parch'd desert, and with rich manure
Of folded herds, luxuriant crops insure,
Where now no flow'r but hardy Loopings blow,
Nor trees but dwarfish Oaks unfrequent grow.
Until nor mountain lifts its head in vain,
Nor Agriculture scorns the poorest plain.

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* Rowland Rugely, a gentleman of a respectable family at St. Ives in Huntingtonshire, Secretary to Lord Charles Montague, when Governor of South Carolina, and known to the public as author of some Original Poems and Translations, serious and burlesque.

† Clermont was the name of Mr. Rugely's plantation.

* Locock wrote on Madder in South Carolina.

THE WEAVIL!

It is well understood by all naturalists that the winged species undergo three different states—1st. the egg is hatched into a *worm*—next the worm exudes a sort of fluid from its surface, which hardens into a shell, encasing the animal, and constituting what is called the *chrysalis* state—and lastly it passes from this state, during which it is maturing its wings, feet, &c. into the condition of a fly, when it "takes its wings and flies away" to its business or its pleasures. Those, who have been in the habit of keeping silk worms for their amusement or profit, will have noticed these various *metamorphoses*, which are almost as surprising as those which are related in the beautiful strains of Ovid. There, Daphne is changed into a Laurel—and here, we have an ugly and dull and inert worm suddenly changed into a beautiful butterfly, glittering with all the hues of the rainbow, and frolicking with more than the vivacity of a child. In the silkworm alone, the fly is seldom on the wing.—It lives but a few hours—revels in sensuality, and forgets to fly.

All of the fly state is subject to this threefold transformation.—It is true of the moth, of the butterfly, of the beetle, some of whom

" ——— wheel their droning flight,"

in the day time, and others infest our lighted rooms in the night. It is true of the *weavil*, which is seen to fly from the heaps of corn in the spring time, with bodies more tiny and hues as dull, as those of the smallest moths, which flit round the candle, until they perish in the flame. This is the time for the weavil to burst its little "cerement," and emerge into the open air. Take an ear of corn, (and I have examined every variety, from the rare ripe to the gourd seed, white, red or streaked,) and you will find some grains that are pierced with holes—some that look dark, with a hole in them—and others, that have apparently no hole in them, because the film that covers the receptacle, has not fallen off. From the first, the little winged insect has already escaped.—In the two last cases, it is still in the grain in the chrysalis state, either about to emerge from it, or not matured for its flight. Most of the grains of corn are not pierced at all. They have escaped the ravages of the insect.

The secret of all this is soon understood. While the green corn is yet standing upon the stalk in the autumn, the winged insect visits it—pierces it—and inserts its egg. The egg remains in the softest part of the grain during the winter. The heat of the spring hatches it into the worm, which feeds upon the substance of the grain until it grows to about the sixth of an inch; then becomes a chrysalis; and afterwards passes from the grain, to fulfil the purposes of its production. Let any one take an ear of corn; expose it to the temperature of a room well warmed with the present genial air—and he will witness what I have described. OBSERVER.

[*Richmond Compiler.*

GOLD—EXTRAORDINARY.

We have substantial foundation for the rumours of the last eight or ten days of the great original deposite of gold discovered in this county. The account almost exceeds belief, and surpasses any thing of the kind in the history of mining. The land on which the gold was found, about 18 or 20 miles east of this place, was purchased two or three years ago by a Mr. Carlton, from Virginia, for the purpose of mining, who, after spending his time and money for a year or two, relinquished the undertaking as unsuccessful. Lately, however, the work was pursued by others, which has eventuated in the discovery of this extraordinary rich deposite, on the 2d instant. The whole amount of gold obtained is variously stated to be from 75 to 120 pounds, but from the statement of a gentleman who was called upon to make a probable estimate of the weight and value, it is supposed there is at least *one hundred pounds of gold*, all obtained in *one* day. The gold was found in a small space, two or there feet below the surface, in grains and masses weighing from ounces and pounds, to pieces of *five, seven and eight* pounds! There was no vein discovered, or sign of any, but the laborers came suddenly upon the whole mass of gold, deposited as it were in a nest, and imbeded in very red clay.

On pursuing the labor of digging during the past week, we understand that no more discoveries have been made,—this rich deposite being entirely isolated, promising no continuance of the extraordinary development.

The value of the gold, it is estimated, will not come under $20,000, after being separated from all extraneous substances. [*Charlotte, N. C. Miner's Journal.*

YELLOW JASMINE.

We announce, with deep sympathy in the affliction which the event visits on her fond parents, and in the hope that it will operate as a solemn warning to young persons, the fact, that Sarah, the interesting little daughter of Mr. John D. Gordon, aged about 4 years, was poisoned yesterday from eating *yellow Jasmine flowers*. The child, we learn, was in good health at the breakfast table, went out and came home an hour or two after, to breathe her last in the arms of her parents, who are overwhelmeed with grief by the sudden and heart rending event. [*Norfolk Beacon.*

FLOWERS.

Love in the myrtle bloom is seen,
  Rememb'rance to the violet clings;
Peace brightens in the olive green,
  Hope from the half-closed iris springs,
And vict'ry on the laurel grows,
But woman blushes in the rose.

THE FARMER.

BALTIMORE, FRIDAY, APRIL 29, 1831.

THE PROSPECTS OF AMERICAN FARMERS.—The probability of a general war in Europe approaches very near to certainty. That it will be one of terrible carnage, may be inferred from the nature of the two great parties in it, despotism and liberty, and from the fact, that it is to decide the fate of the former; but its probable duration is not so clearly indicated—it may be a war of twelve months or twelve years. As members of the human family, as philanthropists, the people of this country will regret this state of things; as republicans, they will feel intense interest in it, but as a nation, we have little to fear, and nothing to lose by it. Its effects will be felt in this country to an important degree, and by no class of people more than the farmers. It will create a demand for bread stuffs, and thus enhance the value of agricultural products immensely. If the war does become general, the probability is that the ensuing harvest will be the most valuable one to farmers that has been reaped for many years. We must not be considered as wishing for a war of bloodshed and devastation in foreign countries, that our own may be benefited by it—far from it; but if such is to be the unfortunate lot of our neighbour nations, without any act of ours, no good reason can be seen for our not preparing to furnish them with such supplies as their necessities may require, and which they must obtain somewhere. As well might it be argued, that it is improper to prepare wrecking vessels to assist shipping unfortunately cast away by the fury of the elements, with a view to salvage, as that we ought not to look for, and even prepare for the *sutlership* of this general war. As well might it be said that we should not take advantage of our neighbour's necessity by selling him bread, because he stands in need of it. One thing we hope our farmers will not neglect; and that is the husbanding not only of their harvests from which they have reason to expect so much, but of their gains also from this source. When our planters and farmers, not many years since, were reaping such rich harvests, from a similar cause, they seemed to forget that there could be a change in their circumstances, and consequently "as fast as their money came in at the door it was shovelled out at the window." The probability is, that there will be a state of agricultural prosperity fully equal to that of any period since we became a nation; and it is to be hoped that its benefits will not be squandered.

AMERICAN SILK.—A correspondent of the New York Journal of commerce writes from London as follows:—"I forgot to mention to you sometime since, that the American silk offered here for sale, was bid in at public auction. The price was limited at 14s, but only 13s 9d was offered. The manufacturers however speak well of it."

Here we have the best commentary that can be made on the assertion, that it is ruinous for us to make sewing silk, mits, gloves, &c. out of our good silk; and that we ought to export our raw silk. At 14 shillings a pound in London the American producer would scarcely realise more than $2.50 for raw silk. Whereas he can make it into sewing silk, and thread for mits, stockings, &c. (those "gold frying pans" of Messrs. Du Ponceau and D'Homergue!) and obtain from five to seven dollars a pound according to quality. We hope to hear no more of exporting our raw silk, and importing the manufactured article. If the process of manufacturing sewing silk from raw silk is to double the value of the material—that is, to make three dollars worth six—then let us have the advantage of it.

GAMA GRASS, OR SESAME GRASS.—*Tripsacum.*—We copy, into this number, an article from the Mobile Register, giving an account of the extraordinary qualities of gama grass, and stating that it has been successfully cultivated in Maryland. If any of our readers have any knowledge of it, we shall be very much obliged to them for an account of it—whether the grass proved to be valuable or not; as the publication alluded to has caused a considerable excitement in the south, and induced many to call upon us for further information and for some of the seed. On reference to page 244, vol. 8, of the American Farmer, we find an account of this grass, by Dr. Hardeman, of Missouri, equally as favourable as the one now published. But a communication from "W. D." of Chester county, Pa. in vol. 8, page 260, of the Farmer, (who, by the by, we take to be a well known scientific agriculturist and an able correspondent of this Journal,) to whom a few seeds were sent, seems to discourage the idea of its extraordinary value, except in prairie and low wet grounds. He thinks that it undoubtedly is the tripsacum of botanists, and if so, it can easily be obtained, for it has been known, for many years, as a common plant on the western prairies, and in many parts of the southern states, whence, if valuable, it certainly would have been taken for cultivation long since. As, however, Dr. Hardeman and the gentleman of Alabama, speak in such decided terms, of it as a very valuable grass, it is more than probable that it is not the tripsacum, described by Elliott, but some other, not yet described by botanists, and we shall be much obliged to those gentlemen, or others, for some of the seed for distribution.

AGRICULTURAL EDUCATION.—We have frequently spoken in terms of approbation of the Fellenberg system of education, and wished that our country might be so fortunate as to have it introduced here; but we had no expectation of our hopes being so soon realised. It is with the most heartfelt pleasure therefore, that we lay before our readers the following proposals for such a school. We have had a short personal acquaintance with Mr. Ismar, and he has communicated to us his views in detail; we have besides made ourselves acquainted with the system of education he proposes to establish, as set forth in his lectures published in the two last numbers of the Farmer, and the "outlines," published in the present number; from all which we have derived impressions highly favorable to Mr. Ismar and the school. We believe such a school to be exactly the thing wanted in this country, to lay the foundation of a system of improved agriculture. We believe further, that, if generally adopted, it would contribute more to the happiness of mankind, and especially to the well being of the people of this country, than any other system or combination of systems yet known. It is besides a cheap school—little more than is required in large towns for mere tuition. We therefore recommend it to the serious attention of the readers of the Farmer. As Mr. Ismar has made us the repository of the details of his views, we shall take pleasure in communicating any information we may possess to those who may require it.

MR. SMITH: *Bolton Farm, April* 25, 1831.

Dear Sir,—You will be informed by Mr. Ismar's private letter of this date, what are his views relative to the Union of Agricultural and Intellectual Education at Bolton, and also of his intention to communicate for the Farmer, the results of his observations, which I am sure you will find interesting. You will now have the goodness to insert in it the following.

I am, most respectfully, your ob't serv't,
ANTHONY MORRIS.

Association of the FELLENBERG SYSTEM *of Education, under the superintendence of* F. A. ISMAR, *late of Hofwyl, with the classical and English institution of the* REV. WM. CHADERTON, *on Bolton Farm, near Bristol, in Bucks county, Pennsylvania.*

The object of this association is, to establish a school in which classical learning will be omitted, for boys between the ages of ten and twenty years, to be instructed in theoretical and practical agriculture, the sciences connected with it, and the mechanic arts; and also a school for the preparation of teachers who may extend the system throughout the country. This department, which is now open, is under the exclusive superintendence of Mr. Ismar; and to adapt it to the agricultural and mechanical classes of society, the charge for tuition, board, and washing will be $100 per annum, payable half yearly in advance, half in cash, and half in produce, at the market price.

F. A. ISMAR.

Prices Current in New York, April 23.

Beeswax, yellow 22 a 23. *Cotton*, New Orleans .10 a .12; Upland, .8½ a .10½; Alabama, .9 a 12. *Cotton Bagging*, Hemp, yd. 18 a 20; Flax 12½ a 16; *Flax*, American, 7 a 8.——*Flaxseed*, 7 bush. clean .—— a .—— *Flour*, N. York, bbl. 6.25 a 6.37; Canal 6.50 a 6.75; Balt. Hwd. st. 6.37 a 6 50—; Rh'd. city mills 7.00 a —— country, 6.25 a 6 37; Alexand'a, 6.25 a 6.37; Fredericksburg 6.12 a ——; Petersg —— a 6.25; Rye Flour, 3.75 a 3.67; Indian Meal, per bbl. —— a 3 75; per hhd. 17.75 a 18.00 *Grain*, Wheat, North, 1.31 a 1.33; Vir. —— a 1.37; Rye, North, 78 a 80; Corn, Yel. Nor. 73 a 75; Barley, 80 a 81; Oats, South and North, .31 a .35; Peas, white, dry, 7 bu. 5. Beans, 7 bu. 7.00 a 8.00. *Provisions*, Beef, mess 8.50 a 9.25; prime 5.50 a 6.25; cargo 4.62½ a 5.00; Lard, .9 a .10; Pork, mess bbl. 14.00 a 14.75; prime 10.50 a 11.25.

CARROT AND WHITE ONION SEED, for sale by G. B. Smith, at this Office.

AGRICULTURAL WAREHOUSE AND SEED STORE.

The subscriber would inform the public that he has the following articles in store for sale, all of the best materials, faithfully and well made, viz.

Gideon Davis' highly approved Patent Ploughs in all their variety—Davis' ploughs improved as more adapted to stiff soils. Bar Share and Coulter Ploughs improved. Substratum and Shovel Ploughs, Cultivators for Corn and Tobacco. His Patent Cylindrical Straw Cutters, superior to any other article of the kind in use, also Dutch Cutting Boxes, Wheat Fans, Threshing Machines, an assortment of Hoes, Shovels, and Spades, Hay and Manure Forks, Cast Steel Axes, Wove Wire, together with a variety of other implements of husbandry of the most approved kinds. Also a general assortment of the Messrs. Landreth's Garden Seeds, which are fresh, and of prime quality, Clover and other Grass Seeds. Fruit and ornamental Trees, Bulbous Roots, Flowers, &c. furnished to order. Likewise Peirson & Walker's superior Mule and Jenny Spindles. J. S. EASTMAN.

N. B. Plough castings kept constantly on hand to supply the place of those worn out, also all kinds of repairs done at short notice. J. S. E.

Extract from Mr. Hall's Letter to John S. Skinner.

"The straw cutter is here, and in operation, and a most *admirable machine it is*—the best I have ever seen in this or any other country. I am truly obliged to you for the selection of the machine, as well as to Mr. Eastman for his explanation of the mode of keeping it in order." CHAS. HENRY HALL, *New York.*

SINCLAIR & MOORE,
Pratt Street Wharf,

OFFER for sale a full supply of their new improved PLOUGHS, of different sizes, both wrought and cast shares—also many other approved kinds, constituting an assortment, from which agriculturists can be supplied with those adapted to all kinds of land. Hill side Ploughs; double mould Ploughs; Double and Single Shovel Ploughs; corn and tobacco Cultivators, with wrought and cast Tires; grain and grass SCYTHES; Scythe Sneads; and are now preparing a large stock of GRAIN CRADLES, on which will be hung the best quality Scythes, and be in readiness to supply the demand at an early period.

Also now on hand, a large stock of their improved WHEAT FANS, which will be constantly kept up.

Just received an additional supply of fresh GARDEN SEEDS and Garden TOOLS, Hay and Manure FORKS.

N. B. MILLET SEED WANTED.

April 22.

THE HIGH BRED IMPORTED IMPROVED DURHAM SHORT-HORNED BULL BOLIVAR

Will be at Franklin, on the Franklin Turnpike road, about four miles from Baltimore—during the months of January, February, March and April next.

At Epsom farm, near Towsontown, seven and a half miles from Baltimore, on the York Turnpike road, during the months of May, June, July, and August next; and at Franklin, in September, October, November and December.

Terms.—Five dollars, to be sent with each cow.

This Bull was selected by Mr. Coates, the keeper of the Herd Book, without limitation of cost, and was highly valued by Colonel Powel, who considered him in form, points, and pedigree, equal to any animal to be had in Great Britain.

Bolivar is red and white, was bred by J. Whitaker, Esq. England. The singular neatness of his shoulders, the straightness of his back, the width of his loin, the smallness of his head, neck, and offal, the quickness of his gait, together with the well known character of his family as dairy stock, render him one of the most desirable males for improving our neat cattle that can in any country be found.

The committee on Neat Cattle at the exhibition of the Pennsylvania Agricultural Society, reported as their opinion, that Bolivar was "*the handsomest and best Bull that has ever been exhibited at any of our shows.*"

BALTIMORE PRICES CURRENT.

BALTIMORE MARKET.—A considerable decline has taken place in flour—the wagon price of Howard street being $5.50, and sales from stores at our quotation. Much of this is attributed to a scarcity of vessels to transport it; and the same evil is experienced in the corn trade, though a tolerable business is doing in all descriptions of grain. There is not much change in other articles of country produce; such as there is will be noticed in our quotations.

TOBACCO.—Seconds, as in quality, 3.00 a 5.00; do. ground leaf, 5.00 a 9.00.—Crop, common, 3.50 a 4.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 10 00; yellow and red, 8.00 a 14.00; yellow, 14 00 a 16.00.—Fine yellow, 16.00 a 20.00.—Virginia, 4.00. a 5.00.—Rappahannock, 3.00 a 4.00——Kentucky, 4.00 a 8.00. The inspections of the week comprise 320 hhds. Md.; 15 hhds. Ohio; and 3 hhds. Virginia;—total 338 hhds.

FLOUR—best white wheat family, $7.00 *a* 7.50—super. Howard-st. 5.75 *a* ——; city mills, 5.50 a ——; Susq. 5.62½ *a* 5.75; CORN MEAL, bbl. 2 25; GRAIN, Md. red wheat, 1.10 *a* 1.20; white do. 1.20 *a* 1.30, Susq. 1.20 *a* 1.25-CORN, white, 68 *a* 70-yellow 68 *a* 70-RYE, 65 *a* 70. OATS, .33 *a* 34. BEANS, 90 *a* 1.00-PEAS, 50 *a* 60—CLOVER SEED —— *a* —— TIMOTHY, 2.00 *a* 2.25—ORCHARD GRASS —— *a* ——Tall Meadow Oat Grass 2.75—Herd's, 50 *a* 75—Lucerne 30 *a* 37½ lb.—BARLEY, 62½—FLAXSEED 1.25 *a* 1.30—COTTON, Va. 9 *a* 9½—Louisiana 10½ *a* 12½—Alab. 9 *a*. 11—Tenn..9 *a*. 10—N. Car..9 *a* .10½—Upland 9½ *a* 11½-WHISKEY, hhds 1st p. 29 *a* 29½-; in bbls —*a* 31——WOOL, common, unwashed, lb. 23 *a* .26——washed, .33 *a* .37-crossed, .37 *a* .42—three-quarter, .43 *a* .45—full do. .45 *a* .50, accord'g to qual.-HEMP Russia, ton, $255 *a* 260—; Country, dew-rotted. 6½. *a* 7c. lb.—water-rotted, .7 *a* 8c.—Feathers, 33 *a* —Plaster Paris, per ton, 3.75 *a* 3.87½, ground, 1.37½ *a* —— bbl.——Iron, gray pig for foundries per ton 30.00 *a* ——; high pig, for forges, per ton, 28.00 *a* 30.00; bar, Sus., per ton, 80.00 a 85.00.—Prime Beef on the hoof, 6.25 *a* 6.50—Oak wood, 3.00 *a* 3.25—Hickory, 4.50 *a* 4.75—Pine 2.00 *a* 2.25.

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EDITED BY GIDEON B. SMITH.

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TERMS.

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5. Advertisements connected with any of the subjects of the American Farmer, inserted once, (seldom more) at one dollar per square.
6. All letters concerning this paper must be directed to the publishers. They must be free of postage, except communications intended for publication, and letters containing money.

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AGRICULTURE.

ESSAYS ON AGRICULTURE,

BY F. A. ISMAR.

No. 1.

Agriculture is not only a noble, but the noblest profession on the face of the earth: every thing comes from the earth, and without its culture we must abandon the idea of any progress in politics and morals. There was a time when nobody thought himself so high as to despise agriculture; but when war and artificial needs had created idlers, a set of people who luxuriate on the labor of the active and industrious man; when the laboring class forgot, that in order to reduce to starvation the presumptuous fool who thought himself superior, that they have only to cease their work; then the producer received an idle master who despised the hands which fed and clothed him. Wherever that happened the laboring class must accuse themselves for having been satisfied when their stomach was filled, and their body clothed, not thinking to instruct themselves so as to oppose the encroachers, not only by material force, but also by intellectual powers. The vile *flatterers* of the people are always their enemies, and will impose upon them a far heavier yoke, as they were obliged to humiliate themselves more in order to make the people slumber over their rights and interests. In this free country, I hope, not only all men are equal, but also inclined to gain such useful knowledge as to prevent such sycophants as I described, to suffocate their good sense and liberty by a bombastically oratorial steam. Here I hope every man is convinced of the truth, that it is not enough for a. people to have the name and an *apparent* exercise of sovereignty, but that they must be *true* and righteous sovereigns. A man who knows the plough of the field, and the utensils of the workshop, only from description and drawings, is a bad legislator for the man who uses them with his hands. But let me not have the appearance of politizing. I wish to say something about the field and its culture, and shall merely by digression, speak now and then a word of politics, (not *party* politics,) as far as it may generally concern the people of field and workshop. I think it not necessary to say any thing about the different species of soil, and can substitute these introductory words to that first part of my essays. I shall begin to speak of that mixture of remains and putrefactions of the animal and vegetable reign, from which an artifical vegetative earth is formed, I mean the dung or manure —a thing I think much neglected in this country. The manure is almost a corroborans of the exterior crumb of the earth, and a principal object of agronomy; it is the vital principle of husbandry; for it increases and betters the vegetative earth, and gives new force to the soil exhausted by the plants. It is therefore called upon to empower and enliven the ground. There are *dung materials* and *means of dunging*. The former are either *dry* or *liquid*, or *green dung materials*. In the first class we admit, 1. The excrements of all animals, also of man. 2. The destruction of their bodies and bones. 3. The obnoxious remains of butcher houses. 4. The remains of workshops, fabricks, manufactories. 5. The oils and oil-keecks. 6. Dead plants of the earth, and the water. 7. Remains of walls. 8. Dirt of the streets. 9. Stuff of malt. 10. Remains of tanneries. 11. Rust, &c. In the second class we place the urine of beasts and men. 2. The slobber of the kitchen, the meat-banks, wash-houses, breweries, workshops, fabries, and manufactories. 3. The water of flax and linseed, dairy, &c. In the third class we reckon all plants, f. e. peas, beans, clover, corn, wheat, rye, turnips, and other succulent plants, ploughed under in the full growing of vegetation.

The dung-means are not properly to be called manure, but only means to resolve, excite and dissolve the bodies. They belong also neither to the animal or plant reign, but from that of the minerals, f. e. lime, plaster, chalk, salt, and salt-ashes, saltpetre, and its ash, ash of wood, potass, and ash of charcoal, bricks. Farther, some things of a mixed nature must here be enumerated, as being partly taken among the materials, partly among the means of manure, f. e. compost, other artificial means of manuring and watering.*

But the dung materials of the first class as the excrements, &c. are neither at first manure, but only dung; and become only manure after having gone through a kind of putrefaction, or (to be more true.) of fermentation; i. e. when by the effects of warmth and humidity, the organic bodies (belonging to the animal and vegetative reign) destroy themselves, by which such a process is effectuated. This process of fermentation has three stages. 1. The *beginning of putrefaction*. In this stage the warmth or heat is the greatest, for the greatest part of volatile salt is unfolded and recognized by the penetrant urine smell. The second degree produces the *destruction:* the heat decreases gradually, the straw and other plants become brittle; in the mass are produced salts, all becomes drier and brighter. The third stage is the *burning*. It begins by continued destruction, so that the vegetables or plants lose their organic texture, the anterior bodies reduce themselves almost to ashes, and the whole matter becomes a dry black earth, a pulverized vegetative earth. It is evident that the second stage is the best for use in agriculture.

It is evident that the second degree is the best for the use in the field. We have therefore to examine, how this process is to be produced in order to obtain that second degree.

The first requisite is an orderly dunghill. This must be so arranged as to aid the necessary co-operation of warmth and humidity. Six things must be observed in this respect: 1. An equal distribution of the dung, i. e. it must be well mingled on the dung-hill, f. e. the various kinds of dungs, of horses, cows, hogs, or privies, and must be well and orderly intermingled and accumulated, in order that the superfices be not decomposed, and in the interior be prevented from becoming mouldy. After the mingling, the accumulation and firm trampling of the dung are an important requisite. 2. A moderate humidity; for too much of it hinders the fermentation, and too little exposes the dung to being too much dried and exhausted by the heat of the sun. 3. An equal access of the air, without which the dung becomes mouldy. 4. A moderate and equal warmth. Cold, as well as too much heat, hinders the regular fermentation; and by too much heat in particular, the richest materials are generally volatilized or lost. 5. Rest. A continual motion increases the exchange of air, and allows no interior warmth. Let the dunghill be continually trampled upon by cattle, picked open by poultry, or turned by hogs; it cannot putrefy in an homogeneous mass. 6. Large dunghills; for small and negligently dispersed hills are soon penetrated by heat and cold, become soon dry and decomposed in place of putrefying regularly. Large hills suffer comparatively less by the change of temperature, and their putrefaction is more regular.

A dung-place should be made like the hole of a privy, i. e. it should be water-tight, therefore entirely lined with clay. For that purpose no wall is necessary, and the whole arrangement is neither difficult nor expensive. Its site should be to the north, its form that of a rectangle, and its depth not more than three feet in the earth. The dung must furthermore, not rest immediately on the ground; but on a wooden grate, in order to give a way for emptying the ley, which by means of a gutter enters in a ley reservoir. In several parts of Holland, also at Mr. Fellenberg's, at Hofwyl, there is in the midst of the dung-place, a pump, to take away the ley. Here now the dung is successively accumulated. The whole dunghill should not be higher than six, seven, at highest eight, feet above the level of the ground. Each strata, equally distributed with the fork is to be trampled upon with the feet or with a roller. Over the dung-place a light roof of loosely united straw is to be built, so as to avert the heat of the sun and heavy rains, but to give access to air and humidity. Towards the south and the west, that roof must so much exceed the dunghill as to avert entirely the rays of the sun. It is also advantageous to plant trees around, at least brambles, along the walls, and to place some boards on the top. Finally, there must be gutters two feet wide, four or five inches deep around the place, in order to receive the rain water.

In order to facilitate the transportation of dung out of the stable, (generally wanted in this country to the great injury of the field, and the health of the animals,) there should be a door in the wall towards the dunghill, through which the dung can be taken. It is useful to have more than one dunghill in a large husbandry, for they present the advantage to have partly separated the dung of horses, sheep, cows, &c.; by this means we are enabled to give to each soil, and to each plantation, that dung which is particularly wanting. But it should be an essential condition for every dung-place to have communication by the lower gutters with the reservoir of ley. Often, but principally during the summer, the dunghill must be basted with ley out of the reservoir, or wash ley, slobber of the kitchen, and in extremities with water. In order to accelerate fermentation, and to terminate it in four or five weeks, (generally it takes six or seven often eight weeks,) the dunghill must receive a little salty things, f. e. vitriolic acid, crem. tartar, sal. glauberi, epsom salts, or plaster. Lime-water, (100 lbs water in which some ounces of limestone, made ardent in a charcoal fire, and thus thrown into the water, with which it is immediately sprinkled) has the quickest effect. The human urine is also well calculated for that object.

In some parts of Holland and Germany, the dung is fermented within the stable, in preserving the dung dry by continual addition of straw, and allowing the cattle, hogs, and horses, to stay several days during the summer, and several weeks during the winter on it. An active care prevents the loss of any excrements; the whole mass is perfectly united by the animals lying, trampling, and perspiring upon; the urine is entirely absorbed by the straw; the equal warmth of the stables preserves an equal putrefaction, and the dung is sooner ripe. But this mode is injurious to the cleanliness, and therefore health of the animals. The similar dung-stables, (if I dare call them so) in this country, being in the open air, without walls or roof are only calculated to produce all disadvantages of that method in the fullest extent, without presenting *any one* of its advantages. In the next number I shall speak more in detail about the dung materials and their preparations, after the three above indicated classes.

There is a weekly market for live stock held in Brighton, near Boston, a species of Smithfield—in which, during the past year, the sales of beef, cattle, steers, sheep and swine, amounted to *one million, four hundred and nineteen thousand, one hundred and forty two dollars forty-two cents;* exceeding *twenty-seven thousand dollars* per week.

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* I have had occasion to observe in several countries the advantageous use of lime, particularly such as made from oyster shells, but I think it right to declare that I *never* saw this excellent manure better and cheaper prepared than in Bristol, Pennsylvania, by Messrs. ——.

They wish only that the farmer may make a fair *trial*, and I feel obliged to express not only my belief, but my conviction produced by observation and experience, that never will the farmer obtain a more effectual and cheaper manure. These gentlemen sell the bushel at $12\frac{1}{2}$ cents, and pulverized at $18\frac{3}{4}$ cents.

(From the Massachusetts Agricultural Repository.)

WOODLAND AND FOREST TREES.

To the Corresponding Secretary of the Massachusetts Society for Promoting Agriculture.

From a variety of circumstances, my attention for a series of years has been necessarily drawn to the oversight of several considerable tracts of woodland, in order to effect a right management of them. This attention has become a habit and a source of gratification to me. If any apology is due for the too frequent remarks on this subject, I must refer to the partial persuasion of my friend Mr. Lowell, whose valuable instructions and labor as to the forest, as well as the garden, have been so useful. On the right management of the wood lot, our agriculturists have been heretofore again and again inquired of, and it is most obvious that many opinions offered have been erroneous. Some of these will be stated, to show the knowledge aimed at by the society. It will be our endeavor to submit facts and inferences, drawn from repeated experiments and more intimate experience which time has afforded. These may be useful so far as they are sustained by the judgment or coincidences in the opinion of others. The first question on this head submitted by the society is: "Whether the growth for wood for timber and fuel, be equivalent to the consumption in your vicinity?" The universal reply has been indicative of an alarming decrease in Massachusetts, of both timber and fuel, and that a recurrence in the country is had in many places to peat, as a substitute for the latter; while recently it is well known, that in populous places, and near the sea coast, as well as in many of our manufacturing establishments, there is an increasing and extensive use, particularly of the coal of our country as a substitute for the article of wood. Nor is this to be regretted; on the contrary, it seems most wisely ordained, that while the discoveries of the age call for an increasing use of fuel, as to which the surface of the earth could give us no adequate supply; there are beneath us and at hand, inexhaustible resources for every possible demand. It is not to be denied, however, that these are but substitutes—and very inconvenient ones in many places; nay, more, that they are generally recurred to from the force of necessity. To most of those long habituated to it, the cheerful blaze of a wood fire, has a powerful attraction. But if wood is abandoned for fuel, and no means of encouragement are given by government, whence is our timber, &c. to be derived? Here, with great respect a consideration is submitted to our legislators, which, though familiar to many may not, as to its effects, be so well known to all. By a law passed March 4, 1829, it is enacted, "That all wild or unimproved lands, shall hereafter be assessed at *six* per centum instead of *two* per centum, on the value thereof!!"

Excesses in legislation are apt to operate injuriously, especially, when they effect changes in long established usages. The effect has been herein sudden and violent in its operation on farmers. Feeling the *threefold* weight of the *tax*, thus *increased* upon a *capital* not immediately *productive to them*, they have laid the *axe* to the *root* so heartily, that wood at 12 to 20 miles from Boston, has actually been depressed in value more than one third, and timber is of little more value than for fuel. This was probably unforeseen by the legislature, and is to be lamented. But it will meet the attention it merits, from the watchful guardians of the interests of the commonwealth. The next inquiry has been, "what measures are taken to provide against the inconvenience of future scarcity?" To this, the answers given are much to be regretted. In most instances, the replies are, "the wood lots are not fenced from the habit of economy and other motives, and where cattle run at large on the commons, they eat and destroy most of the sprouts from the stumps of late fallen trees." In fact, unless there is a surplusage of young shoots and but very few cattle to browse, the *whole are cropped!*

To confirm this, I will state an experiment lately made. On an inclosure, partly of good pasture land, in a spot the most retired from cultivation, on the north side of a rocky precipice, where there was not a blade of grass, and at some distance from grass feed, about ten loads of wood in scattering growth, on about an acre of ground, were cut off. Some young bushes and the brush were left on the ground to discourage the approach of cattle. To furnish sprouts or browse and to ascertain how far cattle would be induced to crop the shrub oak, an acre or two of young growth were cut over. The latter were very sparingly resorted to—while I was unable, with the assistance of two persons, to find one sprout of the walnut, oak, and other trees, untouched by the cattle.

It is unfortunately too true, that cattle will crop all the shoots of young forest trees which they can reach, constantly tempted by their sweet sap; thus discouraged and gradually destroyed, they give place to bushes and shrubs, which instead of affording nutriment to cattle or being advantageous to the husbandman, make the soil not merely *useless*, but an occasion for *heavy expenditure*.

Some of the evils invariably arising to lots recently cut over, by browsing, will be stated. First, a tree or sucker thus deprived of its main shoot, it is said, never grows straight, or becomes a timber tree, and its thrift is injured.* Next, if the trees are cut in the proper season, when the sap is said to be down or the leaf is off, in the following spring, the circulation of the new system then puts forth its effort, strongly for the needed action of the atmosphere, by the function of its leaves, &c. If this is not afforded, vegetative life is endangered, if not lost.

For these and other reasons which will follow in connexion with this subject, it is apparent, that as relates to both of these questions, the "growth of wood and timber"—or the means of provision, against future scarcity, the inroad, or browsing of cattle, must be prevented.

The next question presented is, "in getting your wood for fuel, do you pick the oldest trees, or do you cut clear?"

The reply from individuals, as well as societies, mostly given is, "It is generally practised to cut the oldest and most decayed trees, leaving the rest."

Our belief is, that our farmers have attained a better knowledge and practice, and that both experience and observation will well justify the now prevailing usage with them, of "cutting clear."

Where old and decayed trees only are selected, the growth becomes more and more scattering, and the young trees or suckers, deriving no vigor from the sun and atmosphere, fall into decay. This remark, with some others, may perhaps be deemed a repetition of what has been before said; but it is well to note what time has confirmed.

The cutting of two growths on several lost since the period alluded to, has passed under my observation. Some of these were demonstrative of the disadvantage of "picking out the decayed trees," as well as the benefit of cutting clear.

The practice in one instance had been, in times long gone by, to pick out the trees as wanted, for timber, or fuel, and the growth had become very scattering, and of no sensible increase; though most of them were of white oak, and from ancient growth and great size, had become very valuable; yet when the lot was again cut over, there were more cords of wood, and a greater profit in the latter, than in the former case. The first was a product of more than a century—the latter of only thirty years!

It would be a waste of time to multiply remarks, as might be done, on this head.

It may here be observed, that the information sought for by the society, has relation to "our wood lots, and the best means of production for fuel"—as to our timber, there is no great scarcity at present; there seems to be enough to meet the demand. But the principles of production, are widely different, in relation thereto. Timber, it is said, to endure long, must be matured by age, of thinner growth, &c. But as to this, our country itself, since its settlement, can hardly be said to have had a reproduction!

The next question which has been proposed is, "what method is best calculated, to increase the value of woodlands?"

To this the answers given are general and indefinite, alluding mostly to the keeping out of cattle. It is here intended to submit some reasons for consideration, as well as the result of several experiments of different modes, by which it would seem that the cutting clear and having a reproduction, is by far the most promising and effectual mode to be pursued with us.

And first, there is generally on all farms some rough or rocky soil in "wood," unfit for culture, and which would be unproductive in any other appropriation.

Next, as to the certainty herein—there is no known instance of a failure in a re-growth. This has been often predicted, particularly on some lots where the tops of the trees were mostly dead; this was a score of years ago, and there is now a very thick growth, almost fit for the axe! It will be said that there must be a period of decay in trees—that this is the course of vegetation; and indeed the law of nature!

However true this may appear, it may yet be answered, that after cutting off an old lot even, there spring up innumerable young shoots, which seem to have been hidden, or inactive, beneath the surface, and then start into new life. The suckers, too, put forth with still more vigor, until the surface is so thickly covered that some are induced to thin the growth by a selection of hoop poles—at least to *early gain* if not *ultimate advantage*—as to which opinions vary.

As to the general principle of the germination of suckers, it appears that the roots of old trees throw up their shoots at a greater distance, converging towards the stump, and gradually becoming more and more thick. In middle age they start nearer; while in younger trees they spring from the stump itself as well as about it.

A failure in vegetation from what would seem to be old age, is very rare; indeed in many cases where the roots of large trees have not put forth, a sufficient reason has appeared, (as is apprehended) in the modes of cutting. The farmer strikes inward and downward to the heart of the tree, and a hollow or basin is often left sufficient to contain several gallons of water. Fermentation is thereby had in every stage and process, and the apertures of the sap vessels are clogged, and as it were poisoned thereby.* This appearance has presented itself, and been so often noted by the writer, that the attention of agriculturists is solicited hereto.

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* A forcible demonstration of the power and the healthy functions of the leaf, and the effect of their loss, may not be thought out of place here, besides being somewhat analogous. Some years since, a tract of pasture land, about 15 miles from this city, appeared to be overrun with Sumach, (*Rhus typhinum*) so useful as a dye stuff. A worker in morocco urged the occupant to gather the leaves and dry them at $20 a ton. As there was a large family of children, it was set about in good earnest, and over five tons were gathered and paid for. It is not believed that five pounds of this material have grown on this land since!

* To show the effect that may be produced on the most extensive roots and fibres of newly cut trees, the following fact is stated.

A grove as well as several rows of that pernicious tree, called with us the Lombardy poplar, unfortunately introduced by a bad taste, was not only cut off but wholly eradicated by the following method. On cutting down the trees, a hole of three or four inches was bored with an auger to prevent waste, and a handful or two of salt put on each stump—not a single sprout ever appeared above the surface. The same has been since seen in instances of other trees.

If such is the effect of this practice, a remedy is easy, by cutting a notch or gap in the rim or exterior of the stump.

In closing, as to the inquiries of the Society, which have preceded, it should be noted, our judicious farmers, it is believed, have generally of late been induced first to cut clear, as well as prevent the browsing of cattle on a recently cut lot, and next to appropriate certain portions of their farms (especially those least calculated for culture,) to a reproduction of a growth of wood—and thus afforded the safest answer, as to the best modes to be adopted.

The importance of the subject in discussion, has further induced the Society, some time since, to offer "a premium of one hundred dollars, for the best plantation of white oak, and some other trees raised from seed."

It was doubtless a principal object to encourage efforts in bringing forward nurseries by planting the acorn, and subsequent culture of the soil. This plan some have thought might be extended to a row culture in lots, coppices, &c. To afford one experiment for inquirers, though on a somewhat different principle, I took about six acres of old pasture land, about seven years since, and proceeded gradually to plant thickly over the whole lot several bushels of acorns, chestnuts, &c. in the following manner:

A tongue of earth was raised by the hoe, and an acorn put beneath at a depth of two to three inches; then the sod was pressed down by the foot or hoe, to prevent a loss by birds, squirrels, &c.; all stock was kept from the inclosure. Trees, have vegetated to be sore, but they seem quite unthrifty in the tough grass-sward with which they feebly contend; and there appears at present, (as I had indeed apprehended) little room for much expectation from this mode.

At the present price of land and condition of the country, any attempt to raise a wood-lot by appropriating a valuable soil thereto with the expense of culture, &c. may be found by far too expensive.*

We are now brought, in closing these remarks, to the utility of nurseries for the rearing of forest trees, which has been most strenuously urged in this journal.

It is believed that the seed of a forest tree (particularly an elm or an ash,†) placed in a nursery at the time of setting out a number of trees of the usual size, in such cases may be afterward transplanted and added thereto, and present the largest growth.‡

If these views are correct, with the aid to be expected from the ardor and intelligence of the Horticultural Society, it will no longer be allowed "as a mortifying fact, that the inhabitants of Massachusetts import most of their ornamental forest as well as their fruit trees from abroad."

These remarks are submitted, "not so much for any knowledge the writer may possess, but that the attention of others may be turned to the subject. Thus, every step in the progress of experience, will be towards the perfection of knowledge."

I am, sir, yours,

John Welles.

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* I have had covered very desirably with a thick growth, several barren spots which were offensive to view, by setting out two or three pitch-pine-trees (*pinus rigida*,) which is a most unwelcome intruder on a good soil to shed their seeds thereon. Probably to have gathered the cone at early frost, and to have scattered them on the soil would have had the same effect.

† From the extraordinary size of the tap root, or some other cause, I have had no success in transplanting the walnut or shagbark.

‡ An elm from the forest, set out at usual size in 20 years gave 3 feet 4 inches.

An ash set out as above, gave 3 feet 2 inches.

An elm seed planted in a nursery, and transplanted to a row, gave 3 feet 9 inches.

An ash seed planted as above, gave 3 feet 10 inches.

(From the New England Farmer.)

FARMERS' WORK FOR MAY.

The proper time for planting Indian corn will soon arrive, according to the ordinary course of the seasons, and we shall, therefore, state some of the methods pursued by judicious and successful farmers for raising this very valuable product.

Judge Buel, of Albany, says "if the soil is stiff or the sward stubborn, plough late in the fall, and harrow in the spring before you plant. If a sand or light loam, leave the grass to grow till near planting time. In either case the roller may be used to advantage. It compresses the sod, smothers the growth of grass, and prevents the escape of the gasses evolved in the fermentation of the vegetable matter buried by the plough. If you have manure to spare, (and you can use it no where better than with this crop,) spread it on the sod and plough it under. Plant your corn in hills. The distance will depend on the kind of seed and strength of the ground. I plant at three feet each way. Harrow at the first dressing, the more the better, provided you do not disturb the sod; and plough shallow and earth slightly at the second. But exterminate all weeds. By leaving the sod unbroken, the roots of the grain have a better supply of moisture and nutriment beneath it. * * *

"I am satisfied from several years' experience, that, other things being alike, the clover sod, ploughed under in May, will give a material increase of corn, over land which has no sod. I think 20 per cent. on an average, and the crop is much less liable to be injured by drought. The planting should be as early as the season and soil will admit.

"Failures and great inconvenience and loss often result from the seed not vegetated, from its destruction by the wire-worm and grub, and from the depredations committed upon the young plants by birds and squirrels. As I have never suffered in either of these respects I will state my method of preparing the seed. I collect in the first place a quantity of the roots of the black helebore, or itch weed, which abounds in swamps, grows with and resembles in its habits skunks' cabbage, except that the leaves are narrower, longer, and grow upon the seed stock; these I boil till I obtain a strong decoction. I then take out the roots and add to the liquor saltpetre in the proportion of four ounces to three gallons, and put in my seed corn while the liquor is yet warm. Thirty-six hours is the longest period it should be suffered to steep, as the nitre may destroy the vegetating principle of the grain. As a farther precaution, the liquor is again warmed, and a gill of tar stirred in, and the seed again immersed in it anew. Thus prepared, I have not lost twenty hills in four years. The germinating process commences before the corn is planted, and unless the ground is too wet to grow this crop, (and it never pays the expense of culture on soils that abound in springs, or that are naturally wet and cold,) it will continue to progress. The helebore is poisonous, and though the ground may partially extract the poison, neither birds nor squirrels will ever disturb a dozen hills. The tar impregnates the seed and protects it from the worm. The nitre and plaster, with which latter the seed is mixed before planting, combine their fertilizing properties to give vigor and strength to the young plants."

There can be no doubt, we believe, of the valuable properties of the steep above recommended. Whether it ought to be preferred to that of a solution of copperas, which has been pretty extensively used, and with few exceptions met with entire approbation, we are not able to say.

Mr. Buel, moreover states, that "a gentleman in Madison county, who is said to have raised the greatest crop of corn ever grown in this state, ascribes his success principally to the circumstance of his having put four bushels of seed to an acre, instead of six quarts, the usual quantity; and pulling up all but the requisite number of the most thrifty Plants at the first dressing of the crop; and that no Stalk produced less than three ears. I do not know that the facts have been correctly stated to me; but I confess they appear to be rational. We scarcely ever notice a hill of corn, without observing a spear more vigorous than the rest, which maintains its ascendency, and is always most prolific in its return. On the contrary, those plants which are pale and sickly when young, seldom produce much under the best care. My experience warrants me in the belief, that seed taken from a stock which has produced two or three ears, is more prolific than seed which has produced but one ear."

A change of seed is advisable with this grain, as with all others. "But let the farmer beware of taking his seed from too great a distance. If he should bring it, for instance, a hundred miles from the southward, his corn would fail of ripening; if as far from the north, he must expect a lighter crop; and in case of drought the latter will be more apt to suffer, as it has been proved by experiment. A farmer from the county of Bristol, took seed from the county of Cumberland, Maine. It came on well at first, but the summer being pretty hot and dry, it parched up, and produced next to nothing, though the seed he had taken from his own field turned out very well.

"If the farmer cannot conveniently obtain new seed; or if he be loath to part with a sort which has served him well, and choose rather to use it than seed he has not tried, let him at least shift seed from one field to another, and especially from one kind of soil to another.

"And in the choosing of seed, some regard should be had to the state of the soil on which it is intended to grow. If it be poor, or wanting in warmth, the yellow sort with eight rows will be most suitable, as it ripens early. A better soil should have a larger kind of seed, that the crop may be greater, as it undoubtedly will.

"Shell the seed gently by hand, that it may not be torn or bruised at all, rejecting about an inch at each end of the ear. And if any corns appear with black eyes, let them also be rejected, not because they will not grow at all, the contrary being true; but because the blackness indicates, either some defect in drying, or want of perfection in the grain."—*Deane.*

It was the opinion of Mr. Lorain that Indian corn is not generally planted sufficiently early. He observed that "when corn is planted very early it is commonly severely affected by frost, so much that many plants are cut off by the ground." This is unquestionably an injury to which no judicious farmer would expose the plant, if the advantages obtained by very early planting could be had by planting later. Still if the roots remain unhurt, they are of consequence established and very soon repair the injury done above the soil, after the frost ceases to act on the plants. Of course they take the lead, and will maintain their superiority over later planted corn. The ears also fill and ripen much better in northerly climates from this practice.

The shooting and filling of them takes place when the heat of the sun is much greater; and when less cloudy, cold dripping weather prevails, and the crop is nothing like so liable to be injured by frost, (in autumn.) The grounds are also sooner ready for crops sown in the fall. This mode of management will often enable the cultivator to grow the larger and more productive crops, in climates where they have been abandoned from observing that they did not ripen when planted at the usual time.

(From the Huntingdon (Pa.) Gazette.)

SUMMER CROPS.

The season has now arrived when farmers should soon make preparations for summer crops. I take the liberty of putting down my observations, from several years practice, in hope it may be of use to some young farmers—for it is a fact that there is no kind of business, pursued by so many, so little understood. I am aware that we have many, very many excellent farmers: but we have also many that are far behind in that most "useful, honourable and ancient calling." A knowledge of the business is not so easily acquired as a great many suppose: a thorough knowledge of it is obtained, only, by close observation and practice; and any hint from a practical man, is worth volumes of treatises by theoretical men.

First, commence breaking up your ground for your corn crop, as soon as the ground is sufficiently dry for ploughing; which ground should be an old clover sod; turn it over as level and deep as you can; give it one or two strokes with a heavy sharp harrow, the same way it was ploughed; let it remain in that situation until you put in your oats crop, or until near the time of planting; when the ground should again be well harrowed; you may then score your ground for planting, making your rows about 2 feet 6 inches apart, across the ploughing, and so deep in the sod as not to tear or turn much of it up. Commence planting, if possible, about the first of May; drop your corn in the rows, about 20 inches apart, with from 2 to 3 grains in a hill: taking care to cover it well with a hoe, which is of more consequence than many farmers imagine: for if your corn comes up well, you will be likely to have an abundant crop, if you plaster it immediately after, without more labour than harrowing and ploughing it once. Corn ground, prepared and worked in this manner will remain clear of weeds all summer; your corn will stand a drought much longer and better than any other kind of working, which one or two seasons practice will fully demonstrate.

PORTER TOWNSHIP.

HORTICULTURE.

(From the Library of Enter. Knowledge.)

TREES OF SMALLER GROWTH, AND SHRUBS, MOSTLY PRODUCING VERY HARD TIMBER.

Not to multiply too much the subdivisions of this brief sketch, it will not be amiss to class under one head a few of the principal plants that are comprised in the above description, though they have no botanical relationship; though they are natives of different countries; and though some are deciduous, and others evergreens.

1. THORN.—Of the thorn (*cratægus*) the botanists enumerate many species, which they class into several genera. Some of these species are natives of America. They are mostly hardy and deciduous, and when planted singly, grow up to be large shrubs, or small trees. Most of them thrive well in this country; though they are stunted and poor, on very bad soils, in exposed situations.

The White Beam (*pyrus aria*) is a beautiful tree rising to the height of thirty or forty feet. The trunk is large, and divides into many branches The leaves are light green on the upper sides, and white on the under. It is a native of many parts of Europe, growing upon dry and rather warm soils, such as those over gravel, chalk and limestone. The wood is very firm and tough. Walking sticks, wooden axles, handles of tools, and many other things are made of it. It is close, and takes a smooth polish; but, like most of the thorns, it requires to be well seasoned, otherwise it is apt to warp and split.

The Wild Service (*pyrus torminalis*) grows to a considerable size, and requires richer soil than the former. The flowers are in large bunches, and are succeeded by brown berries in the shape of haws, but larger, which are often to be met with in the London markets in autumn. The timber is compact, hard, tough, and white; and answers very well for cogs of wheels, and other working parts of wooden machinery.

The Indian Hawthorn (*rha hiolipis Indica*) is a native of the East Indies. It has been said, but the statement is somewhat doubtful, that it is of larger size than most of the other thorns; without spines; and yielding a tough, red timber, fit for oars, handspikes, and similar purposes.

Common hawthorn, or White Thorn (*C. oxycantha,*) is valuable both as a hedge shrub, and as a tree. Few plants exceed it in beauty, when in bloom; the season of which is usually May, on which account the name of *May*, or "May-blossom," is, in some places, given to the tree. There is one variety, however, the Glastonbury thorn (to which the monks of the dark ages attached a popular legend,) that flowers in January or February, and in favourable seasons and situations, as early as Christmas. Gilpin mentions that "one of its progeny, which grew in the gardens at Bulstrode, had its flower-buds perfectly formed so early as the 21st December." In the aboretum at the Royal Gardens, Kew, a similar thorn flowers at the same season. The belief that certain trees put forth their flowers on Christmas-day, was not confined to the Glastonbury thorn. In the New Forest at Cadenham. near Lyndhurst, an oak used to bud about that period; but the people, for two centuries, believed that it never budded all the year, except on old Christmas-day. The superstition was destroyed by careful investigation; and the circumstance is thus recorded in the Salisbury newspaper of January 10, 1786:—"In consequence of a report that has prevailed in this county for upwards of two centuries, and which, by many, has been considered as a matter of faith, that the oak at Cadenham, in the New Forest, shoots forth on every old Christmas-day, and that no leaf is ever to be seen on it either before or after that day, during the winter, a lady, who is now on a visit in this city, and who is attentively curious in every thing relative to art or nature, made a journey to Cadenham, on Monday the 3d instant, purposely to inquire on the spot, about the production of this famous tree. On her arrival near it, the usual guide was ready to attend her; but, on his being desired to climb the oak, and to search whether there were any leaves then on it, he said it would be to no purpose: but that if she would come on the Wednesday following, (Christmas day,) she might certainly see thousands. However, he was prevailed upon to ascend, and on the first branch which he gathered appeared several fair new leaves, fresh sprouted from the buds, and nearly an inch and a half in length. It may be imagined that the guide was more amazed at this premature production than the lady; for, so strong was his belief in the truth of the whole tradition, that he would have pledged his life that not a leaf was to have been discovered on any part of the tree before the usual hour."

When young, the hawthorn grows rapidly, a shoot of a single year being sufficient for a walking stick; but when it stands to be a tree, it makes wood very slowly, and lives to a great age. The wood is remarkably durable; there is (or was, a few years ago,) a hawthorn in the cellar of Gawdor castle, in the county of Nairn, which has been without leaves or bark for more than a century, and which, tradition says, has been in its present situation, and of its present size, ever since the castle (which is a very old one) was founded.

The trunk of an old hawthorn is more guarded and rough than, perhaps, that of any other tree; and this, with its hoary appearance, and its fragrance, renders it a favourite with pastoral and rustic poets, and with those to whom they address their songs. Milton, in his L'Allegro, has not forgotten this favourite of the village:—

> "Every shepherd tells his tale
> Under the hawthorn in the dale."

When Burns, with equal force and delicacy, delineates the pure and unsophisticated affection of young, intelligent, and innocent country people, as the most enchanting of human feelings, he gives additional sweetness to the picture by placing his lovers

> "Beneath the milk-white thorn, that scents the evening gale."

There is something about the tree, which one bred in the country cannot soon forget, and which a visiter learns, perhaps sooner than any association of placid delight connected with rural scenery. When, too, the traveller, or the man of the world, after a life spent in other pursuits, returns to the village of his nativity, the old hawthorn is the only playfellow of his boyhood that has not changed. His seniors are in the grave; his contemporaries are scattered; the hearths at which he found a welcome are in the possession of those who know him not; the roads are altered; the houses rebuilt, and the common trees have grown out of his knowledge: but be it half a century or more, if man spare the old hawthorn, it is just the same—not a limb, hardly a twig, has altered from the picture that memory traces of his early years

The timber of the hawthorn is remarkably hard and durable, and fit for very many purposes; but a supply of large dimensions cannot be obtained rapidly, as the tree grows so very slowly after attaining some size.

There are several varieties of the hawthorn, all natives of Europe. Of these the double flowering has great beauty as a shrub.

2. HOLLY.—Of the holly (*ilex*) there are sixteen species, and the varieties produced, distinguished by the leaves, are very numerous.

The common holly (*ilex aquifolium*) is very abundantly diffused, being found in warm climates, and in cold—in most countries of Europe, and in many of Asia and America. Hollies are abundant in some of the uncultivated parts of the southern counties of England; and they are also to be met with in the Highlands of Scotland, in places where one could hardly suppose they had been planted.

Were it not that the holly grows very slowly when young, and cannot be safely transplanted when it has attained a considerable size, it would make better hedge-rows than the hawthorn. When allowed time, and not destroyed by shortening the top-shoot, the holly grows up to a large tree. Some at the Hollywalk, near Frensham, in Surrey, are mentioned by Bradley, as having grown to the height of sixty feet; and old hollies, of thirty and forty feet, with clean trunks, of considerable diameter, are to be met with in many parts of the country.

A holly hedge is a pleasing object, though it is too often clipped into formal shapes. Evelyn had a magnificent hedge of this sort, at his gardens at Say's court, which he planted at the suggestion of Peter the Great, who resided in his house when he worked in the dock-yards at Deptford. He thus rapturously speaks of this fine fence: "Is there, under heaven, a more glorious and refreshing object of the kind than an impregnable hedge, of about four hundred feet in length, nine feet high, and five in diameter, which I can show in my new raised gardens, at Say's court, (thanks to the czar of Muscovy) at any time of the year, glittering with its armed and varnished leaves, the taller standards, at orderly distances, blushing with their natural coral."

The timber of the holly is very white and compact, which adapts it well for many purposes in the arts; though, as it is very retentive of its sap, and warps in consequence, it requires to be well dried and seasoned before being used. It takes a durable colour, black, or almost any other; and, hence, it is much used by cabinet makers in forming what are technically called strings and borders, in ornamental works. When properly stained black, its colour and lustre are not much inferior to those of ebony. For various purposes of the turner, and for the manufacture of what is called Tunbridge ware, it is also much used; and, next to box and pear tree, it is the best wood for engraving upon, as it is close and stands the tool well The slowness of its growth, however, renders it an expensive timber. The bark of the holly contains a great deal of viscid matter; and, when macerated in water, fermented, and then separated from the fibres, it forms bird-lime.

3. Box.—The wood of the box is of considerable size, though we generally meet with a small species in this country, in the state of a shrub, forming borders, where the largest stem is not thicker than a pack thread, or, when not in this state, still as a little shrub, often tastelessly cut into fantastic shapes.

RURAL ECONOMY.

CARDS FOR WORKING COCOONS.

Mr. Smith: *Philadelphia, April* 27, 1831.

Sir,—The following directions accompanied the cards I imported last year from Florence, to work up the pierced cocoons. (See American Farmer, page 343, vol. 12.)

To prepare the Cocoons.—Put a few cocoons in a warming pan over a fire, and heat them thoroughly, being careful not to burn them; put them in a canvass bag, and beat them with a round stick on a stone, until they become of a woolly consistence: then take them from the bag, and beat them like wool; spread them out, and slightly sprinkle them with water, in which a little soft soap has been dissolved. This should be done cautiously, as it is only intended to render the cocoons soft and pliable, and in the evening before it is intended to work them.

To use the Cards.—One of the cards is fixed in a wall, or on a post, so that the head of the operative, when seated on a stool, is on a level with it. A small quantity of prepared cocoons is then placed on the fixed card, and carded with the other, until the long threads composing the best part, hang down; then turning the comb and attaching the handle of the card to the iron in the centre of the former, the first quality is removed. The operation is repeated for the second quality, from the remains of the first, and so for the third, which constitutes the tow.

Another way of preparing cocoons is, to put them in cold water until they become soft and pliable, a state that is ascertained by opening one; then washing them several times in cold water until clean, then pressing out the water, and drying them in the sun, slightly beating them, being careful not to break them. They are then to be beaten as before, and carded or combed. The comb does not work so well when new. This I suppose arises from the teeth not being made perfectly smooth, a defect which is certainly within the power of the card maker to remedy or prevent.

The above modes are those pursued in Florence; a somewhat different practice is adopted in France, and is detailed in the Congress Silk Manual, under the head "Preparation of the Waste Silk," and I know that by putting the cocoons in a bag, with some white soap cut fine, and boiled in water for an hour, or one hour and a half, the silk separates fully, and when spread out and dried, that it spins easily. This is the Connecticut mode. The proportion of soap is 4 oz. to a pound of cocoons, but they should be first cut open, and cleaned from the remains of the insect left in them. James Mease.

SALE OF CHINA RAW SILK.

A great quantity of raw silk has been recently imported into Philadelphia, which brought the following prices, $2.87½ *a* $3.75, at auction. A quantity was sold by private contract for $4.25. The price current of Canton of Oct. 22d, 1830, gives the following prices of the article at Canton.

Nankin,	Tysan	per pecul of	113 1-3 lbs	$330
	Tsatlee	"	"	360
Canton No. 1,		"	"	250
2,		"	"	220
3,		"	"	190

I saw the different parcels, and was struck with the great difference in their qualities, some being coarse and dark coloured, and others very white and *superlatively* fine and glossy.

It appears that for the small parcel of raw silk sent from Philadelphia to Liverpool some months since, only 14s 9d sterling was offered per pound, and was bought in, 15s being the limited price. But when a greater price, or an equal one, can be obtained at home, it is certainly bad management to send raw silk to Europe.

(From the Washington Pa. Reporter.)

TO WOOL GROWERS.

A writer in the "New England Farmer," states that after heavy loss amongst his yearling lambs, and frequent disappointment in finding out the cause, he at last discovered what he considers the source of the disease; and, what is more important, a sure remedy. He says that on opening its stomach after death he "found innumerable minute worms, from an inch to two inches in length, in size from a fine to a coarse linen thread, and in colour white, or nearly so, with one sharp end; when examined soon after the death of the animal they were very lively." He further states that the following remedy has not failed in a single instance; take half an ounce* of *gum aloes* (pulverised) mix it with meal or flour until about the consistence of dough.—This is a full dose for one sheep. Mode of administering.—Open the animal's mouth, and with the handle of a table spoon place the dough on the root of the tongue. This quantity proves a complete purge, and brings away large quantities of the worms. The symptoms are weakness, guantiness and purging. This appears to be a safe remedy; and, should it prove successful, it may be the means of saving many thousands of dollars, annually, to this county. A Wool Grower.

INTERNAL IMPROVEMENT.

Winchester and Harper's Ferry Rail-Road.

The Winchester Virginian, of April 27, contains the remarks made by Chancellor Tucker, at the late meeting in that place, on the subject of the contemplated rail-road to Harper's Ferry. Although the projected improvement cannot be considered as national, yet a very large extent of country is interested in its prosecution, and will be vastly benefited by its completion. Rejoicing in every effort, made in no matter what quarter of the state, we have beheld with great pleasure—mingled with some astonishment—the prompt and vigorous steps, taken by the good people of Wincheter and vicinity, in regard to this enterprize. Conception of the plan was followed by immediate measures to ensure its success—No time was allowed for useless doubts and fears—"*If it were done, when 'tis done, then 'twere well it were done quickly,*" seemed to be their motto—and really the spectacle of a great work proposed—the necessary legislation had—and the funds secured—all within the course of some sixty days, is what we are not accustomed to in Virginia. May the judicious manner in which it shall be prosecuted and the success attending its completion, be commensurate with the promptness and energy displayed in originating the work!—We can give no stronger expression of our good wishes.

But to Judge Tucker's Address—We are almost tempted—long as it is—to give it a place in our columns.—We content ourselves, however, by making a very brief abstract of some of its statements. We pass over his remarks touching the probability of raising the ways and means—the additional subscriptions, which took place immediately upon the conclusion of his speech, removing all doubts on this score. The future prosperity of Winchester, the certainty of its becoming a great depot, its monopoly of the Western trade—rendered more certain than ever by the State road to Parkersburg—are all depicted in glowing colors. These are matters which are local in their interest; but the facts which he states, in regard to the cost of transporting produce to market, apply to many other parts of the state, on both sides of the Ridge,—He shows that the price of transportation, on the Rail-road from Winchester to Baltimore of a barrel of Flour, would not exceed *twenty-five cents*—the price *now* paid is $1.75. The difference between these two sums, multiplied by 150,000, the number of barrels raised annually in the county would be $225,000—The county of Frederick then, alone, would save in carriage, and consequently add to its wealth, annually, $225,000—a sum almost equal to the construction of the road. At present, after all the labour and trouble of cultivation, it costs a Frederick farmer *two bushels of wheat to carry five to market.* When the Balt. and Ohio Rail-road, or the Chesapeake and Ohio Canal shall be completed—a Jefferson farmer, living on either river, can send to market 400 barrels at an expense of $100, whilst it would now cost from Frederick $600 to transport the same quantity—being a difference of $500—equal to the rent of a good estate. With these facts before him, well may Judge Tucker style the cost of transportation an *incubus* on the industry of the country.

The objections urged to the scheme by some mechanics, on the ground that an advance in the price of rents and breadstuffs would be ruinous to their calling, are most conclusively refuted,—We must make one extract—

"Let flour rise, and the comfort and the pride of the farmer will conspire to send him to his mechanic for whatever is convenient or appropriate. The mechanic will therefore get more work and more wages, and his prosperity will naturally rise with the prosperity of all around him.

"And as for high rents!—These are obviously calculated to stimulate to activity in the erection of new buildings; and how many artizans are benefited directly or indirectly where these are going on.—It is indeed painful at this time of day and in the present state of society, to find it necessary to controvert such preposterous objections.—Whoever before heard it gravely maintained that the prosperity of a town, was a prejudice to a thriving and laborious class of mechanics? If there be any one who still retains so absurd a notion, I will offer him a piece of my advice. On my journeys to the West, it has often been my lot to pass through a little village which is in as desolate and *tumble-downish* a condition as any man can wish. There house rent is as cheap as he can desire, for he will find no competitor for its miserable hovels. There bread stuffs are at half price, for the other half of their value is swallowed up by the expense of transportation. Let him migrate thither and enjoy the comfort and ease and advantages of an establishment where bread is low—and rents are low;—and where *work*, too is low; where desolation spreads her raven wing over the grass-grown streets, and squalid poverty and filth hold joint dominion over the wretched inhabitants."

Not less happy are his remarks in answer to the objections of some farmers, who look with dismay upon the time when they will have nothing for their horses to do in the winter season, &c. He proves to them that the whole expenses of transportation by the Rail-way, *together with the expense of feeding their horses*, will not equal the present cost of transportation. His statements of the relative performances of a horse on a Rail-road and a common road, we fear, will jeopard the Judge's reputation for veracity, among those unacquainted with what has been done; or, at any rate, subject him to the imputation of gullibility. We can readily imagine the feeling with which many will hear his assertions, that a single horse, on a rail way, performs, in two hours, a whole day's labour of *one hundred* on a common road; and that, in the same time, a locomotive engine will accomplish a whole day's labour of *one thousand horses.*

[*Fredericksburg Va. Arena.*

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* It appears to me an ounce is too large a dose for a yearling lamb. I should not venture above half that quantity.

[Rail-roads.—The following article is so conclusive as to the practicability of rail-roads, and of their superiority to every other mode of internal communication and transportation, that we have concluded to give it a place in the Farmer. It must be borne in mind that farmers are not only interested in the cultivation of produce, but also in a cheap and expeditious mode of getting it to market.]

LIVERPOOL AND MANCHESTER RAILWAY.

FIFTH ANNUAL REPORT.

Liverpool, March 28, 1831.

The Directors in laying before the Proprietors a statement of their proceedings on the present occasion, are fully sensible of the new and responsible situation in which they stand. Hitherto they have appeared as the advisers of a great public measure, and as the conductors of the various operations required for carrying that measure into effect. At the present moment, however, they have to acknowledge a more serious responsibility, as being amongst the original promoters of an undertaking of immense magnitude, which through every stage of its progress they have contended would be of signal benefit to the towns of Liverpool and Manchester, at the same time that it would afford a safe and lucrative investment to the proprietors. The railway has now been in partial operation for six month; and if they will proceed to show, that the experience of these six months has justified the favourable sentiments they have, from the first, entertained.

The railway was partially opened to the public, for the conveyance of passengers, on the 16th of September last; and in this department of their business, the company have not been required to wait for that gradual and tardy transition, which usually takes place, when long established modes and customs have to be superseded by the introduction of new schemes, and an untried system. Within fourteen days from the opening of the way, the number of passengers conveyed between the two towns was about 800 per day; and before the end of October the number of passengers amounted to 1200 per day; while the whole existing establishments of stage coaches and mails, on the turnpike road, prior to the opening of the railway, would not accommodate more than seven hundred persons per day. This sudden and extraordinary influx of passengers, claiming to be conveyed between the two towns, must be ascribed to the unexampled ease, rapidity, and cheapness, with which the journey was effected. Two hours was then the usual time allowed, and since the late arrangement, by which the first class trains have been relieved from the frequent stoppages to take up and set down passengers on the road, the journey of thirty miles, by these carriages, is generally performed under an hour and a half: and thus, in a few months, has been effected a new and extensive system of intercommunication, highly important to the interests of a mercantile community, and so extraordinary and complete in its character as to form an era in the progress of national improvements, and a striking epoch in the advance of mechanical science. For this gratifying result the company are, of course, mainly indebted to the high talents and persevering energy of their engineer, Mr. Stephenson, who has executed the work with a precision and effect truly wonderful. The company are also under great obligations to their treasurer, Mr. Booth, for the plan of the boiler, which has given the locomotive engine such additional power.

But the quick speed of railway travelling, which constituted its recommendation with the public, brought on the directors an increased anxiety, and the necessity for unceasing exertions, in order that the strength and general structure of their engines and coaches might, as soon as possible, be made capable of resisting the strain, to which, from their unexampled speed, they were subject. In their efforts to provide carriages both commodious and strong, in every way suitable to the object and satisfactory to the public, the directors believe that they have succeeded. Upwards of 130,000 passengers have been booked at the Company's offices, besides many thousand persons taken up at intermediate stopping places; and they have reason to believe, that the conviction is now general, that travelling by the railway is the *safest* as well as cheapest and most expeditious mode of public conveyance ever presented. It is true, that since the opening of the railway four fatal accidents have occurred to workmen employed by the company, owing to neglect or carelessness; but the directors have the satisfaction to state, that only two accidents have occurred to passengers, one a trifling contusion, the other attended with loss of limb, resulting from the party having imprudently, and against remonstrance to the contrary, jumped off while the trains were in rapid motion.

In the merchandise department, the increase of traffic, though more gradual, has been very satisfactory. In December last, the weight of goods passed along the line between Liverpool and Manchester was 1432 tons; in January 3848 tons; in February 4818 tons; and in the present month, up to the 26th, 5104 tons. The directors are preparing a cattle station, at Broad Green, and are building carriages calculated for the conveyance of live stock. This branch of their business the directors have always considered would afford a great accommodation to the public, as well as profit to the company; and they hope speedily to bring this department into active operation.

Of *coals*, only a few thousand tons have as yet been brought by the railway; the pressing demands made on the company for the conveyance of merchandise and passengers, having required the whole of the engine power which the directors have, on the onset, been able to command: they look forward, nevertheless, to this branch of traffic constituting an important item in the revenue of the concern.

But while the business of the railway, in its various departments, has been thus satisfactorily established, it must not be disguised that the expenses of the company, in some items, have exceeded the previous estimates furnished to the directors. This has especially been the case in respect of the locomotive engines; the wear and tear of which, owing to the rapidity of their motion, and to the machinery, in the first instance, being found much too weak, (a defect which experience only could discover,) has exceeded all former calculation. The directors, at the same time, see no reason to regret the exertions they have made to establish a system of travelling as perfect as possible; being persuaded that the great increase in travelling, which may be ascribed to the completeness of the system, will soon overbalance, even in a pecuniary point of view, the extra cost of wear and tear in engines and carriages.

The directors take the present opportunity of replying to an observation which has been circulated with much industry, namely, that the railway was not adapted for the conveyance of heavy or bulky goods. The exact contrary is the fact. In the last three months the capability of the railway for the transit of merchandise, on a large scale, has been brought to the most effectual of all tests, the test of experience, and the result is complete and satisfactory. On the 25th of February, an experiment was made with a new and powerful locomotive engine, the *Samson*, constructed by Messrs. Robert Stephenson & Co. Her load was 107 tons of merchandise. in 30 wagons, the gross weight conveyed (besides the engine and tender) being about 150 tons. She was assisted up the inclined plane by three other engines, and without further aid proceeded to Manchester, where she arrived with her train in 2 hours and 35 minutes from the time of starting. Indeed, the vast capability of railways for the transit of merchandise appears to be very imperfectly understood. It may be easily demonstrated that the passage along the line of 4000 tons of goods per day, being about three times the quantity that now passes by all the existing conveyances, would not occupy any one portion of the line above fifteen minutes in the day, or a fraction of time amounting to 1-96th part of the twenty-four hours. Nor will this be surprising to those who have observed and considered the quiet and almost deserted appearance of nearly the whole line of railway, even on the busiest days. Hence the capability of the present undertaking to discharge any imaginable increase of the trade between the two towns; and hence how unnecessary a rival road, founded on the alleged incapability of the present railway! The directors are prepared to carry three thousand passengers per day, being three times the number now passing; and in a short time will be able to convey all the goods which can be offered to them. It is admitted that the Samson is of more than the usual size, and her performance extraordinary in proportion; but, though it may be found expedient (for the accommodation of the diversified traffic on the railway) to use smaller engines, with fewer wagons attached to them, this is matter of arrangement, and will depend on the varying circumstances of the case; the experiment, nevertheless, is complete in itself, and exhibits a practical answer to the confident, but ignorant, assertion, that railways are not calculated for the conveyance of heavy goods. To the mercantile public, the result will be every way satisfactory; they had been led to expect an important reduction in the cost of conveyance, both of goods and passengers, and this has already been effected: the cost of conveyance for cotton, the staple commodity of the two towns, has been reduced 33 per cent.—namely from 15 to 10s per ton; and the charge for passengers, in a still greater ratio, namely, from 10 to 5s each.

Since the last Annual meeting, the Kenyon Junction railway has been completed, by which a cheap and direct communication is effected, through the Bolton and Leigh railway, to Bolton, and thence, by water carriage, to Bury and the surrounding country. Already about 40 tons of goods are conveyed daily between Bolton and Liverpool, in addition to the traffic between Liverpool and Manchester, and there is no doubt of this branch railway bringing a valuable accession of toll, both in goods and passengers, to the Liverpool and Manchester line. The Warrington and Newton railway, the Wigan railway, and the St. Helen's branch, are all in the course of execution, thereby opening an advantageous communication with the great coal fields in the vicinity of the two latter lines, and, together with the Kenyon and Bolton railways, intersecting in three different directions, the great coal fields in this part of the country; also affording a cheap and convenient access to the manufacturing districts of Hindley, Houghton, Chowbent, Tildsley, and Leigh.

Before leaving this branch of the subject, the Directors will advert to the system of management on which it has hitherto been deemed expedient to conduct the business of the Company. It was the wish of the Directors, in the summer of last year, to make such an arrangement with one of the carrying Companies on the Old river Navigation as would have induced it to transfer a part at least of its carrying establishment to the railway: after repeated interviews and discussions, the Company alluded to demanded, as *their* share of the charge to the public, in order to defray the expenses of their establishment at Liverpool and Manchester, 9s. out of every 15s. per ton, while for the remaining 6s. the railway Company were to grant the use of the railway, to provide locomotive engines, moving power for the Tunnel Inclined Plane, wagons for the goods, guards on the road, and every other contingent expense. Such an extravagant demand from a Company having experience in the carrying business, and one, whose direct and evident policy it was to establish itself on the railway, afforded little encouragement to rely on the co-operation of any of the existing concerns. The Directors, therefore, saw the necessity of being themselves (in the first instance, at least) carriers, as well as receivers of toll, on the railway. They accordingly provided a *carrying establishment*, on a limited scale, at each end of the line; by means of which they have brought the railway into immediate, useful and profitable operation. In the *travelling department* the necessity was still more apparent, for the Company to establish their own vehicles, subject to their own arrangements. And while their success, in the conveyance both of merchandise and passengers, has fully justified the principle and plans which they have adopted (the Directors trust, with no less advantage to the public than to the Company,) it does not prevent any arrangement being made, either with independent carriers or with coach proprietors, should the accommodation of the public or the interests of the concern require the adoption of such a course of proceeding.

It may be expected that after a winter of more than ordinary severity, both from snow and frost, some notice should be taken of the interruptions to the traffic on the railway, which, to a certain extent, must unavoidably have been occasioned. The statement will be very satisfactory; on no one day were the trains of *goods* prevented passing between the two towns—on no one day was the number of trips performed by the *coach* trains diminished—some delay, in point of time, was certainly experienced, but the extent of the evil amounted to this,—that on two or three occasions the railway coaches were as long on the road as the stage coaches were accustomed to be, in their ordinary course of travelling.

By the statement of accounts, which will be submitted to the meeting, the Proprietors will observe that the expenditure towards the completion of the works has considerably exceeded the anticipations of this time last year. The sum authorised to be borrowed, under the original act of Parliament, has been raised and expended, making the amount of original capital and of sums borrowed, which the Proprietors will have authority, by the new bill now before Parliament to incorporate, by the creation of new shares, £865,000; and from the present prospect of a large increase of business, the Directors are of opinion it will probably be found expedient to extend very materially the carrying establishment, in engines, wagons, and warehouses, in order that the Company may reap the full benefit of that vast traffic which the increasing trade of the town, and the ascertained capability of the railway, will place at their disposal.

By an inspection of the balance sheet of the Company's accounts, up to the 31st of December last, the Proprietors will perceive the amount of profit derived from the working of the railway, from the 16th of September to that date; and the Directors have great satisfaction in being enabled to recommend to the Proprietors a dividend of £2 per share, chargeable on the nett profits of the concern, to the end of last year. It is gratifying to the Directors to be able to announce so prompt a return on the capital subscribed, and they have full confidence in regarding this first dividend as an earnest of that permanent and substantial prosperity, which it will be the duty and the pleasure of successive Directors, at future annual meetings, to record.

Before concluding their report, the Directors cannot refrain from expressing to the Proprietors their acknowledgments, for the uniform confidence which they have experienced at their hands. In the expenditure of so large a capital, and in the exercise of the discretionary power with which they have been invested, they have had occasion for all that candour and liberal consideration which the proprietors have uniformly shown. The undertaking entrusted to their charge is now fairly launched into operation, and the proprietors, under whose sanction the work has been carried on, will have the satisfaction of reflecting that the result has been not more advantageous to themselves as individuals, than beneficial to the country at large.

Charles Lawrence, *Chairman.*

MISCELLANEOUS.

A USEFUL WORK FOR FARMERS.

[We consider *the American Repertory*, the subject of the following article, so very useful to farmers and country gentlemen, and to their families, that we have departed from our common course in relation to literary notices, and give it an insertion. We will cheerfully receive subscriptions and procure the work for any of our friends.]

Introduction to the first volume of the American Repertory, of Arts, Sciences, and Useful Literature.

The object of this work is, to furnish, in numbers, to the rising generation, a *Miniature Encyclopædia*, or *General Cabinet*, embracing an epitome of the most interesting topics of the age.

In carrying out this design, three important principles will be constantly in view.

First.—To select from the great mass of human knowledge *that only which is useful or ornamental.*

Second.—To *condense* matter and language as far as practical utility will admit.

Third.—To *systematize* and *arrange* the whole in such manner, that each and every portion may be turned to at pleasure, without the usual alphabetic order of the several articles, or the trouble of a common index.

The scanty limits here allowed forbid even the enumeration of topics upon which, it is believed, the future pages of this work will be usefully occupied—a simple hint at its origin and present design, must therefore suffice.

The example of the bee, in drawing from an almost infinite variety of substances, that only which is adapted to its particular wants and mode of life, to the exclusion of all superfluous or extraneous matter, and the ingenious method pursued in arranging its small, but precious stores for future use, suggested the idea of a *small periodical*, of which this is a specimen.

Though the primary aim of the work will be, to extract, abstract, and concentrate, within convenient limits, that which is evidently useful—still, whatever is *ornamental* in literature, science, and the arts, will not be overlooked. Nor will any pains be spared, while endeavouring to draw within these narrow limits the wisdom of the present and the experience of the past, to excite in the minds of our readers a thirst for all that is *intrinsically valuable*, even beyond the scope of this periodical—particularly by favourable reference to more voluminous publications, to which this will serve as an index.

Another prominent object will be, to furnish the best practical system for accumulating, independently of this work, appropriate mental stores, for the varied purposes of life, in whatever department it may fall. The first few numbers will communicate a practical knowledge of that labour and time-saving art, Short-hand; after which they will exhibit in their progress, a *model place book*, to be copied, or imitated, as circumstances shall justify, by all who approve the plan.

As a matter of very great convenience to the reader, especially for future reference, the contents of each page will be denoted by prominent words in the margin—to which marginal words, a general index may be framed upon the principle of Locke's Common Place Book, which is fully explained in its proper place. This will furnish to each reader an infallible key to every part which he may wish to reexamine—and, at the same time, suggest to the aspirant after knowledge, a method, which, if pursued, cannot fail to produce to him incalculable benefits, by the ultimate saving of time, labour and space: for it is asserted, without the fear of refutation, that a young man, who first acquires a facility in shorthand writing, and then proceeds to write daily, upon the plan about to be suggested, can acquire more useful knowledge in one year, than it would be possible for him to obtain in three years, by any other method that has ever been devised.

For illustration;—two individuals, in every respect equal, take up a volume of 500 pages—the one hurries through it in the usual way, and lays it down to be neglected and forgotten; the other takes time while he reads, to deliberate upon each chapter, section, or topic: and while it is fresh in the mind, enters in his place book, agreeably to the plan about to be communicated, the substance, or, at least, the names of important subjects, and the pages where they are found. Upon the completion of the volume, the latter will have drawn out, perhaps upon five pages, a summary of the 500. For most purposes, a perusal of this summary will be as beneficial and satisfactory, as a re-perusal of the whole volume, though requiring but 100th part as much time. Having these five pages then, as a *general brief*, or *index* to the volume, the contents may be referred to, when occasion requires, without loss of time; and all the important facts familiarised, without the drudgery of an entire re-perusal. Need the question then be asked, which of the two will make the greatest improvement, the one practising this plan, or the one neglecting it? The result is too obvious to demand a question, or to merit a reply.

The following pages may be looked upon as the brief notes of one practising upon this plan—they present a variety of prominent facts and dates, that cannot fail to call up much other valuable matter not expressed, which, but for these notes, could never be recalled by human memory.

It is only necessary, then, to go one step farther, and prepare a key to the place book thus constructed; and all the reading of a *long life* may be referred to, as easily as the merchant refers to items of debit and credit in his leger, by the aid of his alphabet, journal, day-book, &c.

Terms.—From the 1st January, 1831, the work assumed its regular monthly form at $1 per year. Those who wish to procure the first volume, or preparatory series, can be supplied with it at $2.50.

THE FARMER.

Baltimore, Friday, April 29, 1831.

Orange Farm.—The following letter from the proprietor of the Orange Farm, will be read with interest. The only remark we have to make on laying it before our readers, is—"go and do likewise."

Mr. Smith: *May* 4, 1831.

Under an impression that the agriculturists of our country, with a few exceptions, did not employ capital enough in their business, I about twelve years since, determined to carry my ideas into effect upon my Orange Farm, consisting of 400 acres. After the desired fertility had been given to the soil, 30 acres of it were converted into a garden, and 370 acres into a dairy farm. Of these 370 acres, about 70 are in wood, and about 300 under cultivation.

The cows are in number 100—sometimes more, and sometimes less. They are kept in warm, but well ventilated stables throughout the winter, and part of the spring and autumn. They are not exposed to cold rains even in summer. They run during the summer on luxuriant pastures, each of which affords a comfortable shade. So much importance is attached to shade, that sheds have been erected over the troughs, where they get their drink. As there is no running water on the farm, we have to depend on pumps. And it may not be out of place here to state, that two dogs, one at a time, pump all the water, and cut all the cornstalks, straw and *hay* used for all the cows and other animals of this farm. These cut articles, mixed with cornmeal, bran, shorts, and roots, are cooked by means of a very simple steam apparatus for their food during the winter, with occasional variations.

The cows are at all times in the stables clean, by being kept clear of their own dirt, by means of a well constructed drain so fixed as to receive all their dung and urine.

Of the sales of the products of this dairy farm, there has been for a series of years a progressive increase. The account of the sales of last year, as rendered to me by my manager on the 1st January last, you have below; and I am given to understand that it will be more this year. In this statement the proceeds of the garden of 30 acres are not included.

As the expenses of repairs, of buildings, and of every other kind, are paid by my manager, I have not allowed myself to pry into them very closely. I have contented myself with knowing, that he has to deliver to me, and that he does deliver to me, without limitation every day, whatever quantity my family may want of fresh butter, cream and milk, and that he has to pay to me, and does pay to me in cash every Saturday, a satisfactory net amount of rent.

* *

Amount of Sales on Orange Farm for 1830.

Milk, - - - -	$4,822 20
Butter, - - -	1,779 36
Beef, - - - -	1,201 84
Veal, - - - -	184 79
Pigs, - - - -	72 50
Vegetables, - -	455 98
Hay, - - - -	1,143 06
	$9,659 73

☞ The 3d number of De Rustica came to hand too late for this week's publication—it will appear in our next.

Prices Current in New York, April 30.

Beeswax, yellow 22 a 23. *Cotton*, New Orleans .10 a .12; Upland, .8¼ a .10½; Alabama, .9 a 12. *Cotton Bagging*, Hemp, yd. 18 a 20; Flax 12½ a 16; *Flax*, American, 7 a 8.-----*Flaxseed*, 7 bush. clean .--- a .—— *Flour*, N. York, bbl. 5.87 a 6.00; Canal 6.12 a 6.50; Balt. Hwd. st. 6.12 a 6 25---; Rh'd. city mills —— a —— country, 6.00 a —-; Alexand'a, 6. a —6.12; Fredericksburg 5.75 a ——; Petersg 5.87 a 6.00; Rye Flour, 3.75 a 3.87; Indian Meal, per bbl. —- a 3 75; per hhd. 17.75 a 18.00 *Grain*, Wheat, North, 1.26 a —-; Vir. —- a 1 25; Rye, North, 78 a 80; Corn, Yel. Nor. 74 a 75; Barley 80 a 81; Oats, South and North, .31 a .35; Peas, white, dry, 7 bu. 5. Beans, 7 bu. 7 00 a 8 00. *Provisions*, Beef, mess 8.50 a 9.25; prime 5.50 a 6.25; cargo 4.62½ a 5.00; Lard, 7½. a .9; Pork; mess bbl. 14.00 a 14.75; prime 10.50 a 11.25.

HAY AND MANURE FORKS.

IN STORE, Hay and Manure FORKS, at wholesale and retail, manufactured by Samuel Boyd & Co. Also, a general assortment of Implements of Husbandry, on hand as usual.

J. S. EASTMAN,
No. 36 west Pratt-street.

N. B. Wanted immediately, 20 cords of prime white Oak Butts for Plough Timber, six feet long, from 10 to 16 inches diameter at the small end, for which I will pay ten dollars per cord.

J. S. E.

May 6.

WOOL WAREHOUSE.

LYMAN REED,

Commission Merchant, No. 195, *Baltimore street,*

Devotes particular attention to the sale of WOOL. Any consignments of the article forwarded to him for sale, can be disposed of immediately for CASH, at the highest market price.

CASH, and a fair price, will be paid for a few thousand pounds of *good wool*, (if offered immediately,) to supply orders now on hand.

Refer to Messrs. Cobb, Wyman & Co. Baltimore.

April 15.

AGRICULTURAL CHEMISTRY.

A few copies Sir Humphrey Davie's Agricultural Chemistry, just received, and for sale at the office of the American Farmer.

SALE OF SAXON SHEEP.

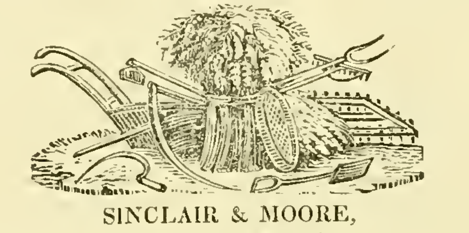
On *Tuesday* the 31st day of May, at 10 o'clock, A. M. at *Brighton*, near Boston, will be sold at auction, by order of assignee, the entire flock of ELECTORAL SAXON SHEEP, imported by George & Thomas Searle in 1826, with one half the increase of the flock since, consisting in all, of about 200 BUCKS and EWES. This flock has been the last four years under the care of Samuel Grant, Esq. at Walpole, N. H. and is well known to all the growers of fine wool in that part of the country, rendering any description unnecessary.

Gentlemen interested in the improvement of the growth of fine wool, in distant parts of the country may be assured that, as a flock, these sheep are decidedly superior to any other ever imported into the U. States, and that the wool has not depreciated in quality, as an evidence of which the clip of last year sold, before any material rise had taken place in the market, at $1.33 per lb. for cash.

They may also rely that the sale will positively take place as advertised.

COOLIDGE & HASKELL,
Auctioneers.

April 22.



SINCLAIR & MOORE,

Pratt Street Wharf,

OFFER for sale a full supply of their new improved PLOUGHS, of different sizes, both wrought and cast shares—also many other approved kinds, constituting an assortment, from which agriculturists can be supplied with those adapted to all kinds of land. Hill side Ploughs; double mould Ploughs; Double and Single Shovel Ploughs; corn and tobacco Cultivators, with wrought and cast Tires; grain and grass SCYTHES; Scythe Sneads; and are now preparing a large stock of GRAIN CRADLES, on which will be hung the best quality Scythes, and be in readiness to supply the demand at an early period.

Also now on hand, a large stock of their improved WHEAT FANS, which will be constantly kept up.

Just received an additional supply of fresh GARDEN SEEDS and Garden TOOLS, Hay and Manure FORKS.

N. B. MILLET SEED WANTED.

April 22.

THE HIGH BRED IMPORTED IMPROVED DURHAM SHORT-HORNED BULL BOLIVAR

Will be at Franklin, on the Franklin Turnpike road, about four miles from Baltimore—during the months of January, February, March and April next.

At Epsom farm, near Towsontown, seven and a half miles from Baltimore, on the York Turnpike road, during the months of May, June, July, and August next; and at Franklin, in September, October, November and December.

Terms.—Five dollars, to be sent with each cow.

This Bull was selected by Mr. Coates, the keeper of the Herd Book, without limitation of cost, and was highly valued by Colonel Puwel, who considered him in form, points, and pedigree, equal to any animal to be had in Great Britain.

Bolivar is red and white, was bred by J. Whitaker, Esq. England. The singular neatness of his shoulders, the straightness of his back, the width of his loin, the smallness of his head, neck, and offal, the quickness of his gait, together with the well known character of his family as dairy stock, render him one of the most desirable males for improving our neat cattle that can in any country be found.

The committee on Neat Cattle at the exhibition of the Pennsylvania Agricultural Society, reported as their opinion, that Bolivar was "*the handsomest and best Bull that has ever been exhibited at any of our shows.*"

GARDEN SEEDS of every description, warranted genuine, constantly for sale by Gideon B. Smith, office of the American Farmer.

BALTIMORE PRICES CURRENT.

Baltimore Market.—The flour market is extremely dull, and a further decline has taken place, though to what extent it is impossible to say, as there are no sales to guide us; our quotations of flour must therefore be considered nominal. The wagon price of Howard street flour yesterday was $5.25, or rather that appeared to be the prevailing price. In grain there is no change whatever. Grass seeds are now out of season and our quotations are generally suspended or nominal. Beef on the hoof remains as at our last. There is a moderate supply, and the best quality will readily command our highest rates.

Tobacco.---Seconds, as in quality, 3.00 a 5.00; do. ground leaf, 5.00 a 9.00.--Crop, common, 3.50 a 4.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 10.00; yellow and red, 8.00 a 14.00; yellow, 14 00 a 16.00.—Fine yellow, 16.00 a 20.00.--Virginia, 4.00. a 5.00.—Rappahannock, 3.00 a 4.00——Kentucky, 3.50 a 8.00. The inspections of the week comprise 380 hhds. Md.; 31 hhds. Ohio; and 20 hhds. Kentucky;—total 431 hhds.

Flour—best white wheat family, $6.75 *a* 7.25—super. Howard-st. 5.62½ *a* ——; city mills, 5.50 a —-; Susq. 5.62½ *a* —-; Corn Meal, bbl. 2.25; Grain, Md. red wheat, 1.10 *a* 1.20; white do. 1.20 *a* 1.30, Susq. 1.20 *a* 1.25-Corn, white, 68 *a* 70-yellow 68 *a* 70-Rye, 65 *a* 70. Oats, .33 *a* 34. Beans, 75 *a* —-Peas, 62½ *a* 65-—Clover seed 4.50 *a* 4.75-Timothy, 2.00 *a* 2.25-Orchard Grass —— *a* ——-Tall Meadow Oat Grass 2.75--Herd's, 50 *a* 75-—Lucerne 30 *a* 37½ lb.—Barley, 62½—-Flaxseed 1.25 *a* 1.30—-Cotton, Va. 9 *a* 9½—-Louisiana 11 *a* 12 —Alab. 9 *a*. 11—-Tenn..9 *a*. 10—-N. Car..9 *a* .9½-—Upland 9½ *a* 10½-Whiskey, hhds 1st p. — *a* 29½-; in bbls — *a* 31½—Wool, common, unwashed, lb. 25 *a* .30-—washed, .36 *a* .40-crossed, .37 *a* .42--three-quarter, 44 *a* .48--full do. .48 *a* .58, accord'g to qual.-Hemp Russia, ton, $255 *a* 260--; Country, dew-rotted, 6½. *a* 7c. lb.--water-rotted, .7 *a* 8c.-Feathers, 32 *a* 33-Plaster Paris, per ton, 4.00 *a* ——, ground, 1.37½ *a* —-bbl.—-Iron, gray pig for foundries per ton 33.00 *a* ——; high pig, for forges, per ton, 28.00 *a* 30.00; bar, Sus., per ton, 80.00 a 85.00 —Prime Beef on the hoof, 6.25 *a* 6.50—Oak wood, 3.00 *a* 3.25--Hickory, 4.50 *a* 4.75—Pine 2.00 *a* 2.50.

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EDITED BY GIDEON B. SMITH.

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5. Advertisements connected with any of the subjects of the American Farmer, inserted once, (seldom more) at one dollar per square.
6. All letters concerning this paper must be directed to the publishers. They must be free of postage, except communications intended for publication, and letters containing money.

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AGRICULTURE.

Re Rustica, No. III.

PLOUGHING—ADDITIONAL REMARKS.

Mr. Smith: *The Bryars, N. C. April* 20, 1831.

Deep ploughing, I have said, enables you to form capacious water-furrows and absorbent beds to hold the water that falls, and to give room and liberty for the crop roots to penetrate and expand themselves. These objects, particularly the last, deserve another moment's consideration.

It is hardly necessary to say that plants feed through their roots, and that these dip, extend and stretch themselves around in search of aliment. Where the soil, by its deep tilth, *admits*, and by its nutriment *invites* their extension, they shew their instinct in sending forth their feeders into every place that promises to gratify their appetites and supply their wants. The roots of the lombardy poplar, (which tree is a thirsty soul, and a hard drinker,) will find their way to the bottom of a well, sixty feet deep; and corn roots I have seen run several yards, and acquire an unusual size, pursuing the course of a layer of old cornstalks. Under favourable circumstances, roots make a formidable subterranean forest, and it must be well observed, that the parts above the ground, (say the stalk, leaf, grain, &c.) bear a due and certain proportion to the parts below. You cannot expect a good top without a corresponding size and quality of root, nor much root without both the proper nutriment for it to feed upon, and a soil that it can easily penetrate in its search for it—all which I repeat a second time, in order to make, in my poor way, the impression on the understanding and memory, that once saying, if well said, might have effected.

It is said by some that the top will not rise well until the root has ceased to descend, and hence they have contended for a practice as absurd as the assumed facts on which it is founded are false,—that cotton, having a tap root, should be planted on a hard unbroken pan to make the roots diverge laterally, and prevent their natural descent and form.

In a dry season, a deeply rooted plant finds moisture to support itself, while a surface rooted one perishes; and in a wet season, a deep striking root is not surcharged and drowned, while surface roots die of a repletion of moisture. You may plough a deep soil and work a deep rooted crop in all weather and seasons without injury, and with advantage, while a shallow rooted crop is injured by the cutting of the roots in dry weather, and by the same, and by scalding the stalks in wet. In a shallow soil the land itself is hurt by ploughing in wet weather, by being disposed to bake. All these comparative remarks may also be applied to rich and poor soils. As there are soils adapted to all weather, and seasons, and work, we should either make or procure these, or our labour in cultivation will be wofully misapplied, and prove miserably unproductive.

Another advantage of deep ploughing to be mentioned is, that it buries seeds and grass so low that they either entirely perish, or else come up so tardily and late as to permit the crop above them to get the start and keep it. The buried rubbish is a deposite to manure the roots of the plants which no other ploughing or culture should be permitted for that season to disturb. I have often witnessed the comparative effects of deep and shallow ploughing in the preparation for a crop—that while deep ploughing has the advantages I have ascribed to it, shallow ploughing merely uproots and spreads the grass and herbage without burying them; or else it covers them so little as rather to promote their growth. A second ploughing of the like sort, has little more success, and a third may disturb its rest so much as to kill one half, which is left to dry and waste on the surface, with harm to the crop, and without benefit to the soil,—while the other half remains an active annoyance, as this does a passive nuisance. As to a second ploughing, where the first had been efficient, Jethro Tull, with great propriety calls it *unploughing* the land, because it brings up to the surface and restores to animation enemies that had been safely buried, and whose death and decay would contribute to the life and growth of the crop.

The last advantage, (save one) of deep ploughing that I shall mention is, that high ridges and deep furrows present a greater extent of surface than flat land, and admits the growth of more vegetables.

One other remark I shall make is, that plants may stand close, and will be supported in proportion to the depth of the soil. Depth, therefore, as well as surface is to be considered in seeding for a crop. It is about the same thing whether you have two feet surface, and half a foot depth, or one foot surface, and a foot depth. You have the same quantum of soil in both cases. My neighbours, who are moving to Chickesaw because they have not land enough, would find a plenty at home if they would plough and dig for it. The *terra incognita,* the hidden plantation, is sometimes better than the one which lies in the pangs of death above it.

I will dismiss these desultory and supplemental remarks on deep ploughing with observing, that I took my first lesson on the subject, from the bank of an old ditch, whose thick bed of clay, after due exposure to the air and light, produced a heavy crop of weeds and briars. What I had deemed *dead clay* only wanted a resurrection to become imbued with the powers of life.—

A few explanations regarding horizontal ploughing, and I will close a postscript, more prolix and tedious than the Essays to which it is an appendage.

If the meeting of two hills requires a short angle in your furrows, it is better to let them terminate at this point, for if you preserve their continuity you will find the plough to *fall off* at the angle in spite of the best exertions to the contrary; and the consequence will be a ravine.

Never plough the bottom and middle of a hill, leaving a part of its side toward the top uncultivated. The rains falling on this last will run over upon the ploughed ground below in a flood, which no ridges can resist.

After all, a real, bad, steep, difficult hill, that even horizontal ditching and ploughing will not in some reasonable time fertilize, had better be given back to the forest state from which it was improperly wrested, by committing it to briars, plum bushes, or any thing that will save *it* from waste, and the land below it from the inundation of its sandy torrents.

T. B.

(From the New England Farmer.)

TURNING IN GREEN CROPS FOR MANURE.

To Mr William Buckminster, of Farmingham, Middlesex county, the committee award the premium of $20 for his experiment "of turning in green crops as a manure." This attempt of Mr. Buckminster, in the judgment of the committee well deserves the attention of farmers, and particularly of those who live too far from a city or town to buy manure. The practice of enriching or renovating land by ploughing in green crops, is a very common one in Europe, though hardly known here. But would it not be well to try it? Our farmers in general have more land than they can till, owing to their not having manure enough, or because it is too far from their barn-yards; and hence it is that some large farms, and naturally of good soil, actually produce less, but with infinitely more labor, than much smaller ones that are well cultivated. Indeed the desire of having large farms, without giving to them the necessary outlay is the common error of our country. The inevitable result is scanty crops and more labor. An acre is mown, often, for a ton of hay or less, where, with decent care, two tons might be had. A pasture often of a dozen acres, which might be easily ploughed, does not afford food enough for one cow; whereas at small expense, it might be made to support four or five. Now, in a country like ours, where produce is so cheap and labor so dear, this is unquestionably a wrong, not to say a ruinous mode of management,—a mode which drives our children to the western or eastern country for want of land, who might have enough here if rightly used.—But if farmers *will* have more land than they can till in the ordinary way, for want of manure, what better plan can be devised than that of ploughing, and sowing, and turning in the green crops, with the sole view of fertilizing their lands? Whether it be afterwards used for mowing, or tillage, or grazing, still it must be good husbandry, if we can rely on the testimony of Mr. Buckminster, and on the experience of farmers in England.

The remarks of Mr. Buckminster on bog or meadow mud, are worthy of notice. It is quite certain, as he says, that used in its crude state, as dug from the meadow, it is inert and seemingly useless; but when put in the barn-yard and hogpen, and trampled upon and mixed with manure, it becomes an excellent compost. As almost every farm has bog meadow, it must be well known, that after being several months in the barn-yard and pig sty, it makes an excellent manure for corn in the proportion of about two-thirds mud and one-third dung. Whether Mr. Buckminster's notice of carting it at once to the ground where wanted to save labor, and there mixing it with manure, is a correct one, every man will judge for himself. The common idea has been, that to take it to the barn-yard *first* is better. But all must agree that it may be very profitably used as food for plants, and therefore ought not to be overlooked in the management of the farm.

To the Trustees of the Massachusetts Agricultural Society.

I have been induced, partly by the premium you offer, and partly for my own satisfaction, to make some experiments as to the value of green crops ploughed in for manure, and I send you the result.

In the middle of May, 1828, I ploughed up three and a half acres of pasture that had, for many years, been tilled by the former owner, until the crops would not repay the labor. It was a light loam, but not sandy. It had been so reduced, that ten acres did not afford sufficient pasturage for one cow through the season. We sowed immediately after this ploughing, a bushel of buckwheat to the acre, and in six weeks rolled down the buckwheat in the direction we intended to plough, and then ploughed and sowed as before. In the latter part of August we turned in a second crop of buckwheat—having rolled it down flat as at first, and then seeded it with clover, herd's-grass and red-top, one peck and a half to the acre. Most of the clover was winter killed, and a great part of the herd's-grass and red-top. Early in the spring of 1829, we sowed 10 lbs. of clover-seed to the acre; and with a light harrow, went slowly over the whole. The seed took well, but the clover was not high enough for the scythe, when the other grass was fit to cut. We mowed what had not been winter killed; and where it yielded best, we obtained one ton of herd's-grass to the acre. Immediately after mowing, we turned in our cattle, and fed the grass close. Last spring, (1830) the grass was so forward we turned in our cattle on the 19th of April. There were eight acres in the whole field, but there were only five acres that bore any grass worth 50 cents. These five acres were the three and a half managed as I have stated above, and one and a half on which grass-seed was sowed in April, 1830; and fifty bushels of leached ashes mixed with loam, spread on the surface. On these five acres, (and the three which bore nothing,) I pastured four cows constantly for four months, wanting two days, and they had an abundance of feed. I never had any pasture-ground yield so well before. I think these green crops improved the land as much as a good dressing of manure, and the comparative expense I estimate as follows on one acre, viz.

With Manure.

20 ox cart loads of manure, -	$24 00
Hauling ¾ mile and spreading, -	5 00
Ploughing once, green sward, -	2 00
Harrowing and sowing - -	1 00
	$32 00

With Green Crops.

First ploughing, green sward, -	$2 00
2d ploughing, and rolling with man and horse,	1 00
3d ploughing, and rolling, do. do.	1 00
Three harrowings, do. do.	1 00
Two bushels buckwheat, - -	1 55
Sowing, do. - - -	25
	$6 80

Thus you will see, that it has cost me less than one-fourth as much to enrich my land with green crops, as it would with manure. If my grass had not been winter killed the first year, I intended to have shown you the precise weight of hay cut on an acre. The above estimate of the cost of manure is less by twelve cents per load, than it can be purchased for in this place. I have given more within two years.

Farmers ought, in duty, to make the trial for themselves. They generally have much land, (miscalled under improvement) ten acres of which will not pasture a cow. Such land usually lies distant from the house. They say they cannot make manure enough for the whole farm, and they find it more profitable to lay their manure on lands nearer home. They do not seem to conceive it possible to enrich them otherwise than with stable manure. If they would plough and sow properly they could make the whole rich.

They further object to growing crops to be ploughed in; for, say they, "the growing crop will exhaust the land as much as it will enrich the same when ploughed in, so that we end where we began." This would be correct reasoning, undoubtedly, if the growing crop obtained its whole sustenance from the ground. It probably does not one-sixth part. It was the knowledge of this principle that gave me confidence of success in the experiment. The advantages of green crops for manure are greater where the lands are distant from the barn, than in other cases.

Respectfully yours, Wm. Buckminster.

Framingham, Nov. 10, 1830.

(From the Genesee Farmer.)

THRESHING MACHINES.

Remarks on the importance to the farmer, of a good, cheap, and durable Threshing Machine, and a comparative view of the merits of those now in use.

It seems to be admitted on all hands, that nine times in ten, the fall market for the farmers' produce is altogether preferable, at least to those in the Western District, and who live within one or two day's drive of any considerable market town, the canal, or other navigable waters; for it not only brings the better price, (this year is an exception, but wars and revolutions will not often happen as opportunely,) but it furnishes him with ready means to meet his engagements, and enables him to lay in all the necessaries to go through the winter months, secures it against loss by vermin, and other casualties—gives him an opportunity to visit distant friends, which he has not leisure to do at any other season, and allows him time, during the winter months, to enjoy his home and fireside, and attend to those duties and pleasures which compose the happiness and enjoyment of the whole human family.

If, therefore, it is important to the farmer, to get his grain to market before the closing of the canal navigation, or before the 15th of November, when the great flouring establishments cease operations—then it becomes of the utmost consequence that he should have some cheap, labour-saving machine, to perform the threshing operation; which, in the ordinary process of treading with horses or cattle, or beating with the hand flail, is tedious and time-consuming, to get the grain to market in the fall, and during the great press and competition for wheat, seriously interferes with the farmer's most important avocations, of ploughing and sowing, and gathering his fall crops; but if he has a machine that can daily thresh 60 or 100 bushels with one team, and do it well, it becomes important, as ordinarily one week's work, will do all a majority of the farmers will have to spare.

In the first place, before we come to remark upon the merits of those now in use, we would observe, that one of the great and principal causes of failures, in many kinds of machines, is the flimsy, cheap, and do-for-the-present manner in which they are made. They are not unfrequently constructed by carpenters, or rather by those who are only an apology for a good one, and who could hardly construct a button to a barn-door, or as is frequently the case by patentees, or their agents, a set of speculating cut-throats, alike ignorant of mechanical powers, of motion or matter, whose only talents consist in the *rigmarole* with which they recommend their wonderful discoveries.

By the operation of these causes, the farmer often gets an ill-constructed, weak, and rickety machine, which needs wedging, nailing, and bracing, at every revolution, and as much power to drive it as would operate a run of mill-stones; and I have known many tolerably good machines condemned, from having connected with it a weak, ill-contrived, and ineffective horse power.

The machinery that generates the motion, whether horse or water power, ought to be as well constructed and of as good materials, as a flouring mill; and it is worse than useless to make the main wheel and pinion gearing of wood. Nothing but cast iron, and that of the softest and best kind, can be depended upon.—If the main and moving power is good, and of sufficient strength to apply as much power as is ever needed, almost any of the modern machines, if tolerably well made will do a good business.

There seems to be but two principles, that now or ever have prevailed to any extent, in the construction of threshing machines, and upon these two principles nearly all, of two hundred kinds which have been patented, (thirty-five of which have been granted within the last year) are predicated, viz.—percussion—where the straw is passing over a sharp edge, or edges, is struck by a set of bars, or beaters, under rapid motion, with such force that the momentum it gives to the heavy body, or kernel, of the grain, forces it from its resting place, in the straw or chaff.

The other principle is a process analogous to rubbing, and is effected by a revolving cylinder, with more or less cogs, spikes, or teeth, of different shapes and lengths; which pass through corresponding ones, placed in a concave, or bed-piece, which is stationary. The number of spikes vary from 100 to 3000, according to the whims of the projectors.

Various modifications of these two principles have been brought forward, tortured into as many shapes and forms, as yankee ingenuity and the prospect of gain could invent; all of which have had their day, and "straight were seen no more."

One of the first that the writer of this article ever saw, was near thirty years ago: it was an upright hollow cylinder, about 4 feet diameter, and 10 feet high, with large wooden arms, or rounds, projecting to the centre, in which revolved a shaft, having the like projecting arms, like spokes to a wheel, its whole length, moving in the spaces between the others; the straw was put in at the top, and its weight carried it down; but it needed a caravan of horses to drive it, and did not do the work well at all.

There were many experiments tried, for several years after, when a new contrivance was brought forward, in which a great number of beaters were made to rise and fall upon the straw lying on a grated table, in imitation of the hand-flail. This proved equally inutile, and was abandoned.

Another plan, for the success of which great expectations were raised, then had its "all the go" for a period; in which the bars or beaters were covered with rough punched sheet iron, and were attached to the cylinder by springs, which, by the centrifugal force of great motion, were caused to elongate, and press upon the concave; which was covered with sheet iron, in the same form as the beaters. Its operation was like rubbing, and not unlike the principle of smut mills: but from the complication of its construction, it soon went to pieces. It looked well upon paper, and a good deal of money was made by selling rights.

Soon after came the spike, or rubbing machines, and with them a prolific brood, which multiplied like Macbeth's witches,—enter here, and exit there; and it is not uncommon to see a dozen different kinds in one town and neighbourhood; many of which are brought to that degree of perfection, that they are able to do tolerably, and some of them excellent work.

There seems to be a great diversity of opinion on the subject of the comparative merits of the beaters and rubbers. It is urged against the beaters, that they require more speed, and consequently more power than the rubber or spike machines, and from the great motion required, the gudgeons, boxes, and bearings, heat and destroy the oils used to lubricate the machinery, and finally destroy both box and gudgeons, which has been an insuperable objection, until, within a year past, an ingenious mechanic has, by using very long bearings for the gudgeons, on a large single friction roller, so reduced the friction as it is thought will remedy that defect.

Against the spike machines it is said, that if a stone, limb, or root should pass through, that the machine is very much injured, if not totally spoiled; and which, undoubtedly, is a serious trouble.

The spike machines or rubbers, in our opinion, and we have had considerable opportunities of judging of their relative merits, and are not now, nor ever were interested in any kind, taking into consideration the lower speed, simplicity and strength of their construction, that under some one of the present or future modifications that they are capable of, will eventually supersede all others; although the beaters, from the decreased expense of construction, and safety with which they allow all extraneous substances to pass without injuring the machine, will always recommend it to a portion of the farming interest.

Although both principles are the subject of a great number of patent rights, on neither of which, as relates to the simple principle, can one be maintained, as they have been used in some shape or other, a great many years, both in England and this country; and the patentees do not generally pretend to predicate their rights on any thing more than some peculiar application or modification of the same principles.

Allowing a good machine, with horse power complete, to cost from 100 to 150 dollars, which it ought to do to be good, and allowing 10 per cent. for cost, wear and tear, it will then only cost the farmer ten to fifteen dollars per year, for the use of the machine, and will be a great saving in time, labour, and the extra quantity produced by the perfect separation of the straw and grain, over any other method.

They are now constructed by a very simple and neat addition, in such a manner as to rake off the straw, separate the chaff, and deliver the wheat fit for market, which improvement may, at a small expense, be added to any machine now in use.

Farmers purchasing machines of any kind, ought to be particular to see that they are well and mechanically put together, with close joints, of good and seasoned materials; the gudgeons well and correctly turned, with sufficient shoulders to keep them from end chase and dancing in their sockets.

Farmers who are unacquainted with the operation of machinery, are generally not aware of the importance of paying proper attention to oiling all the parts liable to friction, as on that depends their durability and safety.

(From the New England Farmer.)

PARSLEY. (*Apium petroselinum.*)

This well known garden-plant, is, in England, a subject of field cultivation. It is a native of Sicily, but will endure the winter of our climate. Mr. Loudon says, "parsley is sown along with clover and grass seeds in some places, and especially in Lincolnshire, as a preventive of the rot in sheep. A writer for the Farmer's Magazine, (Scotland,) says, "a friend of mine having occasion to observe the partiality of black cattle for the common garden parsley, and their preference of it, when growing, to almost any other green food, took it in his head to try how it would succeed in a field that he was going to sow down for pasture. He accordingly sowed two or three ridges with parsley seeds, and the rest of the field with clover and rye grass. As soon as the field was ready for pasture he led his cattle into it, and it was perfectly evident that they preferred the part which was sown with the parsley, to any other part of the field, insomuch that they never touched the rest, while there was a single blade of parsley to be had. Horses were equally fond of it. He had not an opportunity to try sheep upon it; but the probability is, that they would (if possible) have been fonder of it, and thriven better than the other two. We know that black cattle, sheep, horses, and indeed every other animal, always prefer that food, when they have it in their power to make a choice, that it is most agreeable to them and most conducive to their health. We know, also, that parsley is a most wholesome vegetable for the human species. It is a powerful antiseptic. If we were to reason from analogy we should suppose that its beneficial properties should extend to the animal creation in general." Willich's Domestic Encyclopædia, says "parsley is propagated by seed, which according to Miller should be drilled (early in the spring as it remains several weeks under ground) in the proportion of two bushels per acre, in rows about one foot asunder, and *hand-hoed;* though Mr. Mills (in his Practical Husbandry, vol. iii.) is of opinion, that the plants will flourish better, grow to a larger size, and be in all respects more perfect, if the distance between the rows be sufficient to admit a hoe-plough. He adds, that a smaller quantity of seeds will be required, the culture will thus be less expensive, and he is confident, the plant will afford a better food for cattle.

"This vegetable is eaten with great avidity by sheep, and it not only renders their flesh more delicious, but is also believed to preserve them against the rot. Instances have occurred, where sheep fed on parsley remained sound, while those in the vicinity of the farm were uniformly subject to that disease. Mr. Mills, therefore, recommends these animals to be fed with it, twice in the week for two or three hours at each time.—It may likewise be beneficially given to sheep affected with the *scab* or *red-water,* and is said to be very efficacious in recovering surfeited horses, or such as are subject to the *grease.*"

Another English writer says that parsley should be sown among oats and fed the following year with sheep. Two bushels of seeds to the acre is the quantity recommended when no other grass seed is sown; but, probably, the management would be to sow it with clover or some other succulent grass.

Loudon says that parsley "is sown along with clover and grass seeds in some places, and especially in Lincolnshire, as a preventive of the rot in sheep, &c. In laying down lands to grass, Hoyte in the fourth volume of *Communications to the Board of Agriculture,* advises the sowing with twelve pounds of white clover, two pounds of red clover, two pecks of rye-grass, and two pounds parsley to the acre; as the parsley stands two years, and by its diuretic qualities, prevents the sheep from dying of the red-water, which too luxuriant clover is apt to produce. The seed requires a longer time to germinate than any other agricultural plant, and might probably be advantageously prepared by steeping."

DEVONSHIRE OXEN.

Pedigree and weight of a pair of Devonshire Oxen, raised and fattened by S. & L. Hurlbut, *of Winchester, Ct.*

To the Editor of the New York Farmer:

Sir,—Having been occupied from my earliest years, in that rural and *primary* science of *general husbandry*—Agriculture,—I assure you I feel much pleasure in handing to you, the annexed copy of a letter I received from S. & L. Hurlbut, Esqrs. of Winchester, Conn., in which they state the pedigrees and particulars of a pair of extraordinary fat and handsome Devonshire Oxen, which were *bred, worked,* and *fattened,* by those gentlemen on their farm.

Winchester, Conn. March 12, 1831.

"*Sir,*—The pair of fat Devonshire oxen of ours, butchered in New York last week, were sired by our full blood Devon bull, *Holkham,* which we purchased of Mr. Patterson of Baltimore, when four months old, in the autumn of 1819; and is doubtless, one of the finest bulls ever in America. He is from a cow and bull sent to Mr. Patterson by the Hon. Wm. Coke, of Norfolk, England.

"The two oxen were out of two cows termed native breed, which breed originated from England, and were brought over by the first settlers of Connecticut, and were doubtless originally Devon, as they resemble that breed very much.

"The pair of oxen have labored on the farm since they were one year old, until within 21 months. They were, when killed, 7 years and 10 months old. Below, you have their weights.

Yours, respectfully, S. & L. Hurlbut.

To Mr. Fisher.

Near side Ox.		*Off side Ox.*	
Quarters,	1438	Quarters,	1528
Tallow,	175	Tallow,	213
Hide,	117	Hide,	115
	1730 lbs.		1856 lbs.

Without doubt, sir, Mr. Patterson will derive an additional pleasure from the above interesting statement, together with his much respected and intimate friend, Mr. Coke, of Holkham Hall in England, whom I have had the honor to be personally known, for many years; and to whom, I have the gratifying pleasure to add, that I have forwarded the *portraits* of the above named *superior animals.*

Many and great advantages to the community arise from such liberal-minded patriots, for such I am proud to add, is *the noble possessor of Holkham,* in disseminating *useful information,* and thus benefiting every *nation* and *quarter* of *the globe!*

Permit me to state, that the superior breed of Devonshire Cattle on Mr. Coke's domain and estates in England, have been increasing for many years, through his example and superior management.

The Devonshire breed possess many advantages, viz. their early *maturity,* and *aptitude* to *fatten*—beef of a superior quality, for the dairy *richness of milk,* and for the *yoke, plough,* or *draught* not *surpassed*—and *rarely* or *seldom equalled.*

I witnessed the docility and good training of the above pair of oxen, and on handling them, I was agreeably surprised to meet with such *excellent stock* in the city of New York.

I beg to remain, sir, your obd't servant,

New York, April 9, 1831. John Fisher.

(From the New England Farmer.)

PRESERVING TURNIPS FROM THE FLY.

To the Editor of the New England Farmer:

Sir,—You wished to know the result of my experience in using hemp as a protection of turnips against the flies and bugs by which they are apt to be injured. I sowed the hemp around the outside of the field and across in rows at about a rod's distance. The crop was about 140 bushels on little more than a quarter of an acre, which came to perfection without any injury from the above or any other cause. How far this was the result of protection by the hemp, it is of course not practical to say. I would observe, however, that the use of hemp or what I suppose will answer the same purpose, that of flax, is no new thing in this business. When flax was a more common article of attention than at present in New England, it was no uncommon thing for those who raised it to scatter about in the field a little turnip seed for early use; and in this way they used to get turnips in a fine condition, at a season when it is not easy to procure them free from injury by flies. This was the common practice of our respected father, the late John Tuttle, Esq. as I have heard, one of his family state many times. The reason of the protection which turnips received in this way probably was not understood, and as the habit of raising flax went into disuse, the advantage of it as a protection to turnips was forgotten. The principle is, as you well know, the offensiveness of hemp or flax to the flies with which turnips are often injured.

As I am upon this subject, you will permit me to observe, that I have found, from several years' experiment, that the tomato plant is of much use as a protection of the cucumber vines against the insects with which they are so often destroyed, especially the little green and black fly. I do not mean to intimate that hemp or flax in the former case, or tomatoes in the latter, will *entirely* prevent the evil referred to; entire exemption from disappointment we are not to look for in any thing. I have, however, no hesitancy in expressing it as my opinion, that they are of so much use as to justify a general resort to the help they afford. G. B. P.

East Bradford, April 27, 1831.

By the way, by a similar experiment made these two or three years past, I am disposed to believe that the turnip rooted cabbage will prove one of the most profitable plants for field culture for cows, and that we have never too much said any where on the subject. G. B. P.

THE WEEVIL.

A correspondent of the Cambridge Chronicle, who appears to have given much attention to the study of the origin and habits of this destructive insect, has written a very sensible essay upon the subject in that paper, from which the following facts are abstracted:

1st. That when the grain is in an unripe, soft, milky state, and then alone, the parent fly perforates its upper or smaller end, and therein deposites the egg. And 2d, that to destroy the enemy, to kill the vivisic principle of the egg, the grain thus impregnated must be secured from that temperature, necessary to procreation, which nature uncheated, would be sure to provide: in other words, that you must exclude the air from your wheat. A few of our readers, we know, are already aware of all this, and they consequently esteem the existence of the weevil as a matter of but little consequence, so far as regards themselves, since they have found it not very difficult to preserve their wheat, unharmed, from its ravages. By far the greater number of our farmers, however, yet unacquainted with the propagation of the insect and the means of interrupting the course thereof, have still, year after year, to witness and lament the very serious destruction which it occasions with perfect impunity.

HORTICULTURE.

Notice concerning the Garden of Fromont, translated for the American Journal of Science from the Annales de l'Institut Horticole de Fromont, for April,* 1829; by Jacob Porter, M. D. *of Plainfield, Massachusetts.*

The Garden of Fromont contains a hundred and thirty arpents inclosed. Situated in the district of Ris, on the Fontainebleau road, six leagues from Paris, it extends from the great road to the Seine, and overlooks a large and fertile valley, which is watered by this river, in front of the forest of Sénart. The ground, for two thirds of its extent, descends rapidly to the north. All the upper part is good soil for grain, mellow and a little sandy. At a little depth is found the plastic clay, beneath which is a bed of sand or marly chalk, in which lie blocks of millstone. The lower part is good soil for rye, of little depth, resting on a bed of river sand, through which the waters of the Seine are infiltrated and rise when the river is high. This alternate and frequent motion of the subterranean waters supplies a little the dryness of the soil, and favors the growth of the large trees. Some small springs, fortunately situated in the upper part of the garden, are sufficient for the purposes of cultivation, and contribute to the beauty of the scenery. The park of Fromont, planted only twenty-one years since, presents fine masses of trees and shrubs of every description. The scenery in the interior is simple and natural. The external views are rich and extensive; and, as the inclosures are seen from scarcely any point, the country appears to far greater advantage from the garden than the best drawings can represent it. One may observe very considerable masses of evergreens, of cedars of Lebanon in great numbers and very flourishing; and, on the downs at the north, near the manor, is a very fine specimen of the true larch of Caramania, raised from seeds brought to France by the naturalist Olivier, who describes it in the third volume of his travels in the Ottoman empire, Egypt and Persia. This fine cone-bearing tree began to furnish seeds in 1826, by means of which it may be multiplied indefinitely.

In the extensive heath grounds have been collected all the families of vegetables, that are designated in cultivation under the general name of heath plants. These grounds have been laid out for their protection, and, at the north, some large masses of trees are destined to serve for their shelter, and the surplus waters from the higher grounds are conveniently distributed by means of tubes, cocks, streamlets and gutters, moistening the ground, so to speak, drop by drop, and preserving it, almost without the aid of manual sprinkling, in a state of constant freshness. It is in this factitious soil, entirely formed by art, and whose surface is estimated at about three acres, that the magnolias, azaleas, andromedas, and the different rosaceous plants will hereafter flourish; indeed, they already afford a rich supply of seeds.

Such was Fromont less than six years since, when the proprietor, having obtained, in the vigor of life, that leisure, which the shepherd of Virgil regretted to have known so late, conceived the plan of making a simple garden of pleasure a special monument consecrated to the studies of horticulture and botany; but he perceived that such an enterprise, in the hands of an individual, could not be sustained and prosper, except by its own products, and that it would fail essentially, unless industry should come in, with all its activity, to the aid of science, which might, in its turn, contribute to the prosperity of the former. An establishment of industry was therefore immediately founded, not as an end but a means, as the most solid and necessary basis of that edifice, the future elevation of which could not be determined, and the profitable cultivation of duplicates without number, is becoming the honorable means and the best guaranty of the indefinite extension of the scientific collections.

Greenhouses were constructed. Their arrangement is such that they present, in some measure, by their extent, their conveniences and their connection, the appearance of a hamlet, whose roofs are all glazed. Their length is about two thousand feet; and they present all the varieties of exposure, that renders them proper for every kind of culture. Water is brought into them by leaden pipes, and distributed by cocks, that pour it into some reservoirs in stone, in lead and in zinc, placed in each greenhouse, in such a manner that it may be made to flow in one of the divisions only or in all the divisions at once. In this way it may be readily made to suit the temperature of each greenhouse.

These different preparations are employed for the support and propagation of a collection of vegetables, (many of which are still rare in France,) which amounts already, including those in the open air, to more than six thousand species and varieties. The number of duplicates raised in pots is constantly kept at about a hundred and twenty thousand. The part of the garden devoted to heath plants is considered by the best judges as the most complete in the environs of Paris. To give an idea of the rapid increase in this department alone, it is sufficient to state that there were raised the last year, under glass frames, forty thousand of the broadleaved Kalmia, and that four thousand azaleas are arranged in pots for the grafting of more than a hundred and fifty varieties, according to the method of baron de Tschoudy. This kind of nursery is protected from the sun and the winds by the long palisades of Thuyas, and watered by numerous furrows; and at the same time that it is happily connected, by the prolonged contour of its evergreen mass, with the general scenery of the park, it includes within itself very considerable resources, of which the nurserymen and florists, both at home and abroad, who come hither to furnish themselves with assortments, know how to avail themselves.

At a time when the scarcity and dearness of wood are more and more sensibly felt; when some writings of distinguished excellence have been published on the necessity and the means of arresting this constantly increasing evil; when a benevolent individual has come forward to encourage by his writings, his example, and his patriotic liberality, the cultivation, on a large scale, of the best resinous trees; when a grand company embraces, in a single speculation, the clearing and planting of nearly two hundred thousand acres, it would be a lamentable void, in the establishment at Fromont, not to furnish the first elements of this grand forest plantation. But, far from incurring such a reproach, we have, on the contrary, brought forward the subject and treated it in a manner fruitful and novel, by calling the attention of our planters to the employment of precious elements, which, hitherto too generally unknown or undervalued, have never been introduced, as most certainly they might be, into the composition of our territorial riches. We wish to speak of those fine forest trees of North America, the oaks, walnuts, ashes, maples and pines, which our colleague, M. André Michaux, has described in a work, that ought to be in the hands of all planters: trees, whose various qualities might be brought under tribute in forming a good system of plantations and in the regeneration of our forests, as reason and observation, connected with elevated theories of physics and agriculture, already point out.

The summary ideas, that we have offered to the public on so important a subject, and that were at bottom nothing more than a corollary and application of the principles of cultivation and increase, are now, in some measure, brought forward and experimented upon in our own soil by some preparatory labors, the importance of which has been duly appreciated by enlightened persons, who have honored us with their visits, as well as by our correspondents. Innumerable seeds received from North America have begun to germinate in the soil of Fromont, and will permit observers to judge what great advantages, at the least expense and by repeated trials at different times as well as in different places, the mixture of the best forest species of America with our indigenous species would present in the primitive formation of large masses of wood. This inquiry is so important, the grounds, on which it would be interesting to make trials respecting it, are so extensive, the direction of the public mind in regard to plantations is becoming so decided, finally, the number of enlightened men, devoted and liberal, is so great in our beloved country, that, in order to favor and multiply experiments of this kind, our intention is to take as models, in this part of our labors, the grand nurseries of Scotland, which furnish to the kingdoms of Great Britain and the continent of the north the plants of forest trees in millions, at prices, that would seem comparatively trifling, and that persevering industry in their cultivation can alone explain; for it is in Great Britain and especially in Scotland that we must look for the finest and most useful examples of most horticultural establishments. And what interest have we but to do it? The bottom lands in France, whether belonging to individuals or the public, that are susceptible of being planted with wood, may be reckoned at millions of acres. It is, therefore, by millions that we must offer to proprietors and put into their hands, with instructions and conditions alike encouraging, the plants of all the trees, that are proper for adorning and making useful the places now wild and unproductive; sustained by public patronage the garden of Fromont will be able to effect this. We attach to this part of our enterprise an importance proportioned to its high utility, and we are so much the more encouraged in it, as we shall be guided by the talents and experience of our colleague, M. André Michaux, whose observations and works we shall often have occasion to cite. It is well known that it was not as a botanist merely that he studied the vegetables of North America, but that he applied himself to observe and describe their specific qualities and economical uses. With his name and his efforts are connected all the essays made in France and in Germany for the naturalizing in Europe of American trees. It is to him that the inhabitants of the United States themselves have begun to owe a more perfect knowledge of their own riches; and his benevolent co-operation will be sufficient to recommend to public interest the exotic part of the forest establishment, that we propose to form.

But it is not enough to furnish proprietors with new sources of wealth and enjoyment; it is necessary that they should be taught how to use them. In an address delivered at the last public sitting of a society that has been obliged to suspend its useful labors, we attempted to show of what importance horticulture is to every one, and would be to us, such as has been conceived, brought forward and practised before us, an enlightened and liberal nation, and what would be the advantages of its union with the kindred sciences; that is to say, of practice with observation, of labor with study, of intelligence with industry. Soon afterwards we had the happiness to see formed a Horticultural Society, similar to those of England. It shed around a sudden light; its utility was understood; the object of its labors was appreciated, and new ideas gave it favor. We are happy this day to connect our institution with such favorable circumstances, and to meet new wants, which are most sensibly felt. We will concur with all our power and all our devotedness to diffuse, for the benefit of proprietors, instruction among laborers; to inspire, for the benefit of laborers, the taste for cultivation among proprietors. This taste is the most natural to man, the best adapted to interest him; it is that, which connects itself most happily with serious ideas by what it has of reality, with virtuous pleasures by what it has delightful and pure. There is certainly no lack of materials for horticulture. Vegetable matter, in its application to the wants of man, is the theatre on which are displayed two equally useful branches of industry, agriculture and horticulture. These two branches, so nearly related to each other, are enlightened, in their parallel progress, by a series of general ideas, equally applicable to both. But agriculture operates only on large masses; its labors are extended, but uniform as the plains it cultivates; and its meditations, serious and peaceful, still leave much leisure to our minds. Horticulture, on the contrary, upon a theatre less vast, occupies and charms us by the elements, that it employs, the processes, that it invents, the experiments that it undertakes, the success, that it obtains. Its attractive studies are constantly animated and sustained by variety and interest; and when it has, like agriculture, loaded us with real blessings, its cheering pictures come once more to embellish our dreams, while the laborer fatigued finds only heavy slumbers on a glebe too often rebellious. Soulange Bodin.

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* Although this is a description of a local object, it contains many interesting and instructive facts and views, which are of general application, and may suggest many useful hints to Americans.—*Ed.*

(From the Genesee Farmer.)

EXPERIMENT IN TREES.

Mr. Goodsell,—It is often said, and in many cases very justly, no doubt, that men fond of experiments, as well from mere curiosity or inquisitiveness, without any definite object, as when seeking knowledge for useful purposes, that the experimenter is in too much haste to announce the results. That I am always free from this error, I will not pretend to say, as that point will be left to the ultimate decision of others. I have been always fond of experiments, to which a large portion of my time and means have been devoted, even from infancy, in which I am very sure that something has been learnt, by experience. That the experience of one man is not that of another, is one of those things learnt; as also, that, in most knowledges acquired by experiment, the benefit is generally seized by others. This remark, however, has no relation to such cases as the one I am about to state to you, but has both a prospective and retrospective bearing, as will be seen by-and-by.

But to the point—the experiment which I feel bound to communicate, in reply to some remarks in your number 14, on the "Grub, or Peach Borer." Two years ago last August—almost three years, remember—I discovered that some favorite fruit trees in my garden, were sadly affected by the attacks of the borer, his chips and excrement, lying in heaps like saw-dust, around the stem of each, on the ground. On examination, I found that the wood of the tree, of an early and uncommonly fine sweet apple, was nearly eaten off, and its weakness could be perceived by the hands, giving the tree a waving motion. The tree, I considered past recovery, and now for an experiment on the borers.

The sun shown very hot, at mid-day. I cut open the holes through the bark, and ran in a sharp pointed pocket-knife blade of two inches in length, and could turn it, horizontally, quite round. Above, the wood seemed to be very rough and full of holes. The tree had been bearing but two or three years, and these particulars will show how desperate the case was. The fruit fell off, the leaves were all rolled up, many of them almost dry, and all of them shrivelled, as if dying for sap. I knew that *oil* would instantly kill a great many insects, worms, &c., having tried it upon all that had fallen in my way; then why not now?*

Taking the lamp-feeder, and a little crooked tin tube, I filled the whole cavity with oil, and in a few moments pulled out several dead borers. I left it full, and stopped the holes up with earth, and to make the story as short as possible, continued to pour in oil occasionally, common lamp oil, till the orifices were closed, by the growth of the tree, in the second summer. I supported the tree by a strong stake and fastenings of bark—it soon assumed an unusually healthy and vigorous appearance, put out new leaves, blossomed in autumn, and had apples as large as onion balls, of the second growth that year. It continues to grow admirably, a perfectly healthy, beautiful tree, fruitful each year.

This I know, is a long story about one tree, but it is the tale of all my fruit trees of a large garden, except that I may add, that I every year, in spring and midsummer, continue to apply some oil to the bark of the stem, say for one foot above the ground, and that none of them have since been attacked by the borer. *The oil does not injure the tree. I have applied it to the peach, pear, apple, plum, cherry, quince, and to my dwarf apple trees, and with perfect success.* The result has been shown, and told to hundreds of persons, and perhaps it may be time to publish it, of which you are to judge. H. G. Spafford.

Lansingburgh, N. Y. April 16, 1831.

RURAL ECONOMY.

(From Ure's Dictionary of Chemistry.)

ART OF BREWING.

Beer is the wine of grain. Malt is usually made of barley. The grain is steeped for two or three days in water, until it swells, becomes somewhat tender, and tinges the water of a bright reddish brown colour. The water being then drained away, the barley is spread about two feet thick upon a floor, where it heats spontaneously, and begins to grow, by first shooting out the radicle. In this state the germination is stopped by spreading it thinner, and turnit over for two days, after which it is again made into a heap, and suffered to become sensibly hot, which usually happens in little more than a day. Lastly, it is conveyed to the kiln, where, by a gradual and low heat, it is rendered dry and crisp. This is malt; and its qualities differ according as it is more or less soaked, drained, germinated, dried, and baked. In this, as in other manufactories, the intelligent operators often make a mystery of their processes from views of profit; and others pretend to peculiar secrets who really possess none.

Indian corn, and probably all large grain, requires to be suffered to grow into the blade, as well as root, before it is fit to be made into malt. For this purpose it is buried about two or three inches deep in the ground, and covered with loose earth; and in ten or twelve days it springs up. In this state it is taken up and washed, or fanned, to clear it from its dirt; and then dried in the kiln for use.

Barley, by being converted into malt, becomes one-fifth lighter, or 20 per cent; 12 of which are owing to kiln-drying, one-fifth are carried off by the steep-water, three dissipated on the floor, three loss in cleaning the roots, and five waste or loss.

The degree of heat to which the malt is exposed in this process, gradually changes its colour from very pale to actual blackness, as it simply dries it, or converts it to charcoal.

The colour of the malt not only affects the colour of the liquor brewed from it; but, in consequence of the chemical operation, of the heat applied, on the principles that are developed in the grain during the process of malting, materially alters the quality of the beer, especially with regard to the properties of becoming fit for drinking and growing fine.

Beer is made from malt previously ground, or cut to pieces by a mill. This is placed in a tun, or tub with a false bottom; hot water is poured upon it, and the whole stirred about with a proper instrument. The temperature of the water in this operation, called mashing, must not be equal to boiling; for, in that case, the malt would be converted into a paste, from which the impregnated water could not be separated. This is called setting. After the infusion has remained for some time upon the malt, it is drawn off, and is then distinguished by the name of sweet wort. By one or more subsequent infusions of water, a quantity of weaker wort is made, which is either added to the foregoing, or kept apart, according to the intention of the operator. The wort is then boiled with hops, which gives it an aromatic bitter taste, and is supposed to render it less liable to be spoiled in keeping; after which it is cooled in shallow vessels, and suffered to ferment, with the addition of a proper quantity of yeast. The fermented liquor is beer; and differs greatly in its quality, according to the nature of the grain, the malting, the mashing, the quantity and kind of the hops and the yeast, the purity or admixtures of the water made use of, the temperature and vicissitudes of the weather, &c.

Beside the various qualities of malt liquors of a similar kind, there are certain leading features by which they are distinguished, and classed under different names, and to produce which, different modes of management must be pursued. The principal distinctions are into beer properly so called; ale; table or small beer; and porter, which is commonly termed beer in London. Beer is a strong, fine, and thin liquor; the greater part of the mucilage having been separated by boiling the wort longer than for ale, and carrying the fermentation farther, so as to convert the saccharine matter into alcohol. Ale is of a more sirupy consistence, and sweeter taste; more of the mucilage being retained in it, and the fermentation not having been carried so far as to decompose all the sugar. Small beer, as its name implies, is a weaker liquor; and is made, either by adding a large portion of water to the malt, or by mashing with a fresh quantity of water what is left after the beer or ale wort is drawn off. Porter was probably made originally from very high dried malt; but it is said, that its peculiar flavour cannot be imparted by malt and hops alone.

Mr. Brande obtained the following quantities of alcohol from 100 parts of different species of beers. Burton ale, 8.88, Edinburg ale, 6.2, Dorchester ale, 5.56; the average being = 6.87. Brown stout, 6.8, London porter (average) 4.2, London small beer (average) 1.28.

As long ago as the reign of queen Anne, brewers were forbid to mix sugar, honey, Guinea pepper, essentia bina, cocculus indicus, or any other unwholesome ingredient, in beer, under a certain penalty; from which we may infer, that such at least was the practice of some, and writers, who profess to discuss the secrets of the trade, mention most of these, and some other articles, as essentially necessary. The essentia bina is sugar boiled down to a dark color, and empyreumatic flavour. Broom tops, wormwood, and other bitter plants, were formerly used to render beer fit for keeping, before hops were introduced into this country, but are now prohibited to be used in beer made for sale.

By the present law of this country, nothing is allowed to enter into the composition of beer, except malt and hops. Quassia and wormwood are often fraudulently introduced; both of which are easily discoverable by their nauseous bitter taste. They form a beer which does not preserve so well as hop beer. Sulphate of iron, alum, and salt, are often added by the publicans, under the name of *beer-heading,* to impart a frothing property to beer, when it is poured out of one vessel into another. Molasses and extract of gentian root are added with the same view. Capsicum, grains of paradise, ginger root, coriander seed, and orange peel, are also employed to give pungency and flavour to weak or bad beer. The following is a list of some of the unlawful substances seized at different breweries, and brewers' druggists' laboratories, in London, as copied from the minutes of the committee of the house of commons. Cocculus indicus multum, (an extract of the cocculus,) colouring, honey, hartshorn shavings, Spanish juice, orange powder, ginger, grains of paradise, quassia, liquorice, caraway seeds, copperas, capsicum, mixed drugs. Sulphuric acid is very frequently added to *bring beer forward*, or make it hard, giving new beer instantly the taste of what is 18 months old. According to Mr. Accum, the present *entire* beer of the London brewer is composed of all the waste and spoiled beer of the publicans, the bottoms of butts, the leavings of the pots, the drippings of the machines for drawing the beer, the remnants of beer that lay in the leaden pipes of the brewery, with a portion of brown stout, bottling beer, and mild beer. He says that opium, tobacco, nux vomica, and extract of poppies, have been likewise used to adulterate beer. By evaporating a portion of beer to dryness, and igniting the residuum with chlorate of potash, the iron of the copperas will be procured in an insoluble oxide. Muriate of barytes will throw down an abundant precipitate from beer contaminated with sulphuric acid or copperas; which precipitate may be collected, dried, and ignited. It will be insoluble in nitric acid.

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* I very much doubt whether, if oil will so instantly kill these progenies the progenitors be not repelled by its effluvia, while seeking places for the deposite of their seeds. Instinct, at all events, has much more of sagacity in it, as to its "likes and dislikes," as Gen. Jackson says, or its appetites and aversions, than we are apt to imagine.

Beer appears to have been of ancient use, as Tacitus mentions it among the Germans, and has been usually supposed to have been peculiar to the northern nations; but the ancient Egyptians, whose country was not adapted to the culture of the grape, had also contrived this substitute for wine; and Mr. Park has found the art of making malt, and brewing from it very good beer, among the negroes in the interior parts of Africa.

LUPULIN.

This name has been given by Dr. Ives, not to any distinct principle extracted by chemical means, but to an impalpable yellow powder, in which he believes the virtue of the hop to reside, and which may be obtained by beating and sifting hops, of the kind used in brewing. It appears to be peculiar to the female plant, and is probably secreted by the nectaries. In preserving beer from the acetous fermentation, and in communicating an agreeable flavour to it, *lupulin* was found to be equivalent to ten times its weight of hop leaves. It is itself a compound substance, consisting of tan, extract a bitter principle, wax, resin, and lignin. If analysed by the methods of Pelletier and Caventou, it is not improbable that an ingredient might be discovered, in the hop, of an alkalin nature, in which its narcotic virtue would be found to reside.

(From the Genesee Farmer.)

KEEPING POTATOES.

Amongst all the discoveries for keeping potatoes for summer use, we believe there is no way more effectual than to take out the eye or bud with a knife, or some sharp instrument. This not only renders the potato more valuable for keeping, but is a matter of economy with the farmer; for if he will prepare a knife for the purpose, which he can do by bending the point of a common case-knife, and grinding it in such a manner that the eye can be scooped out without cutting deep into the potato, the eyes so scooped out will plant as much ground as the potatoes would if planted with them; and it is affirmed by many who have given it a fair trial, that they are equally productive. Thus the valuable part of the potato may be saved for family use, or boiled and given to stock, which at this season of the year require a little extra feeding. When boiled, mashed and mixed with milk, and fed to calves, they have a very good effect, and if a little meal is also mixed with them, calves may be fed cheaper and equally as well as when fed on milk alone.

CULTIVATION OF BEES IN CITIES.

We have received a small work of upwards of 100 pages 12 mo. entitled "*An Essay on the practicability of cultivating the Honey Bee in Maritime Towns and Cities, as a source of Domestic Economy and Profit.* By Jerome V. C. Smith, M. D. Boston, Perkins and Marvin. New York, J. Leavitt."

There is probably no object of culture, no branch of rural economy which has given rise to more observation, discussion, theories and experiments than that which this treatise embraces. There have been, perhaps, as many works published on bees as there are insects in a populous hive. Still the secrets of their domicile and work shops have not been fully disclosed, for this among other valid reasons—the operators will admit no lookers on to view their manufactory. The moment we throw light on their proceedings their labors are suspended. We see only what they have done, but how they performed their miracles is a mystery we lack means of developing.

It happily happens, however, that we can derive advantage from the labors of these tiny architects without penetrating the mysteries of their craft. The practical part of this branch of economy is simple, and a little plain common-sense, together with a few rules of easy comprehension, to be obtained from Thacher's, Smith's, and other similar treatises, will enable any person of the most moderate capacity, a good stock of bees to begin with, one of Dr. Thacher's hives and a quiet corner to place it in, to furnish himself and family with an article of food which is as wholesome as it is delicious, and whose value in medicine and the arts, but few people have properly appreciated.

With regard to making citizens of bees, we can only say, try and see. Experiments must decide, and we believe, so far as trial has been made, success has been the result. Dr. Smith says, (p. 10, of his Treatise,)

"Several mistaken writers agree in remarking, that in foraging, bees rarely go more than a mile, or a mile and a half from home; this, my own experience proves to be otherwise. On an island in Boston harbor is a hive of bees, in a flourishing condition, whose range cannot be less than three and four miles, in order to procure their full store. The island on which they are located has but few flowers at any time, and on the whole, presents, to the apiarian, a forbidding aspect. Notwithstanding these discouraging circumstances, the quantity of honey, from season to season, has been unexpectedly large, and must, therefore, have been procured from neighboring islands as well as the main land. The nearest island, is one mile: on another, about one mile and a half distant, honey bees have been observed, in great plenty, when the white clover is in blossom. Indeed, a farmer informed me that he had repeatedly seen them arrive and depart for the island on which they so unexpectedly thrive. Hull, a small town, is at the distance of two miles, and Quincy about four,—from each of which places, judging from the numbers of returning bees, over the broad expanse of water heavily laden with farina and honey, their burdens must have been brought.

"This relation at least shows that when obliged by necessity, bees travel to considerable distances,—and also proves, that in cities, provided there were no flowers for them to visit, they would go in search of them in the environs. But all cities have gardens, and some of them are of such extent, in Boston, particularly, that, unaided by the millions of flowers, flourishing under every window, or springing up on the borders of the beautiful common, in my opinion, they would sustain, alone, a large number of hives, Again, there are an immense number of trees, in all cities, by the public walks, and in the grounds of all valuable estates, and in sufficient abundance too, to sustain, without cultivated gardens, hives enough to supply a portion of the population with a moderate quantity of honey.

"But when the trees exhaling sweet dews, the shrubbery, the flower gardens and the thousands of flower pots, yielding a rich perfume, are taken into consideration, it must be evident, that the paved city offers no objections to the successful and profitable cultivation of the honey-bee. If any demonstration is required, it need only be said that I have repeatedly exhibited a glass hive, containing over one hundred pounds, which was made in the heart of Boston, in a few summer weeks."

With regard to giving bees the privilege of tenanting the attic lofts of our mansion houses, &c. we are not prepared to offer an opinion. To say nothing of their intruding upon the prescriptive privileges of the poets' apartment, we should be apprehensive that quarrels might ensue between two classes of animals proverbially irritable. The battles of the bees and the bards, though done into metre by Christopher Cockloft Esq. would never rival that of the "Cranes and the Pigmies," and would produce nothing better than certain superfluous miseries of life, and a plentiful lack of laurels to the luckless combatants. Setting aside evils of this kind, the plan appears to possess advantages for some situations, too obvious to need explanation or comment.—*N. E. Farmer.*

MISCELLANEOUS.

(From the Journal of Health.)

THE PASSIONS OF INFANCY.

Let not the reader be surprised at the expression, "the passions of infancy." Many of the passions, it is true, have at this early period, no existence, while others may be said to be yet in the bud; nevertheless, even in the cradle, fear, anger, and resentment, display themselves, oftentimes to a very great extent, producing present injury to the little beings by whom they are exhibited, and if not combatted promptly and judiciously, taking such deep root as to be with difficulty eradicated or even controlled in after life. The proper moral education of infants is a subject not exactly within our province; we have merely introduced the subject for the purpose of making a few observations on the influence which the indulgence of these passions has upon the health of young children. Crying, screaming, and various motions of the limbs and body, are the means by which the passions of fear and anger are expressed during infancy. Children, it is true, frequently cry from pain or uneasiness, while not unfrequently their cries would appear to be excited by a kind of instinctive impulse, there being no other cause to which, apparently, they can be attributed. Many authors have indeed conceived it improper to prevent. in any case, the crying of infants, unless it proceed from absolute pain or sickness; they believe that, during this period of life, frequent fits of crying are useful, by expanding the chest, developing the lungs, and calling into exercise the muscles of respiration. That, to a certain extent, these effects are produced by the crying of infants, cannot be doubted. But it is not true that crying is very common in infants during health, and when properly nursed; nor that allowing them frequent indulgence in it has any salutary effect; on the contrary, it is a common observation, that the fretful and peevish children seldom thrive well. When from any cause, whether improper food or clothing, pain or passion, an infant is thrown into frequent fits of crying, particularly when these fits are violent and long-continued, as is generally the case when they are excited by fear or anger, their effects are often very serious. The undue amount of blood which they determine to the brain, not unfrequently produces an injury of this organ, laying the foundation for dropsy in the head. or giving rise to convulsions of various kinds. Hence the importance of avoding every cause capable of exciting these violent paroxysms of crying, or when they have been excited, of endeavouring quickly to calm them, by walking the infant about, or attracting its attention by some object calculated to amuse. Two means, however, which are frequently resorted to, to stop the cries of infants, are strongly to be reprobated. The first is, applying it immediately to the breast, or forcing into its stomach with the spoon a quantity of food. This may quiet the child, and even cause it to sleep, but it almost always has the effect of overloading the stomach, and of inducing sickness, colicky pains, or other mischief. The other means to which we have alluded, is the use of laudanum, paregoric, or other opiates; this, if frequently repeated, never fails to destroy the powers of the stomach, to retard the growth and development of the body, and to induce a general condition of the system altogether adverse to the health and life of the child. Quieting drops as they are termed, carminatives, cordials, or anodynes, should never be given to an infant during a state of health. The only composing means which art may at any time be allowed to employ, are gentle motion, and the soft and soothing lullaby of the nurse. —In children, even at a very early period, a kind of cheerfulness of disposition may be excited by various innocent means, and this probably is the very best manner of avoiding these repeated and violent spells of crying, from which injury is to be anticipated. Infants, when kept free from filth, and every cause of uneasiness, when loosely clad, sheltered from cold, and allowed their proper amount of rest, are naturally inclined to cheerfulness—an inclination which is further promoted by gentle exercise in the arms of the nurse; by the cheerful countenance and tender caresses of the mother; by the many objects which attract its attention in the open air during the warmer seasons of the year; as well as by the simple and cheerful songs of the nursery. The mother who is herself of an amiable and cheerful disposition, must perform illy her duties as a nurse, or she would never have cause to complain that her time is wholly occupied during the day, and her rest disturbed at night, by the cries of a fretful infant.

NEWLY DISCOVERED ANIMAL;

"OR, THE HYDRA OF THE ANCIENTS NOT FABULOUS."

The following account of a paper read at a late meeting of the Eclectic Society, will, we are certain, be read with much interest and surprise. In truth, it almost realises the fabled hydra of the ancients:—Mr. J. Frost in the chair. After the routine business, Dr. James Rawlins Johnson read his paper on the Planaria turva. The learned Doctor stated that his attention had been called to these singular animals, by observing parts wanting in some, and in others, such variety of appearance as might have justified an inattentive observer in supposing that they were of different species. The planaria are found near the Red-house, Battersea, and are of a dirty brown or black color; they vary in length from a third to half an inch, and have some resemblance to a leech. They have two eyes, placed like the eyes of a sole; they have two abdominal apertures; one, by which they feed, is situated about the place of the umbilicus in land animals, or even lower, which is very extraordinary; the other is the anal opening, situated at a little distance below the former. They feed by means of a trumpet shaped proboscis, which is protruded, and bears a strong resemblance to the trunk of an elephant. Dr. J. having first vindicated himself from the charge of cruelty, by showing that animals so very low in the scale of being are almost, if not quite, exempt from the sense of pain, proceeded to state the results of his experiments. He cut off the head of a full sized planaria, below the eyes, a new head was reproduced in a few days, varying from nine to fourteen. He cut off this second head; a new one was again regenerated: a third, fourth, fifth and sixth experiment met with the same success; and the doctor is of opinion, that if the cold weather (which is unfavorable to these creatures,) had not set in, any number of heads might have been produced from the same body. In one of these experiments, a new head was formed with but one eye, and that in the centre. He next made a longitudinal incision in another planaria between the eyes, and an incision at right angles with it; thus cutting off half the head, together with one of the eyes: in about fourteen days, the piece was reproduced with a new eye, in the most perfect symmetry. The doctor divided another planaria into three equal portions transversely; the head speedily acquired a new body and tail, the tail produced a new body and head, and the middle piece regained a new head and tail. He divided many other planaria into six and even eight parts; each portion retained its vitality, and set about reproducing as much of a new body, as was required to restore it to the form of the perfect animal, of which it formed once a component part. The doctor dissected wedge shaped pieces out of the heads of other planaria, which were speedily reproduced, and what is most curious occurred—that according to the depth and breadth of these wedge-shaped incisions, a new eye would be supplied, making three eyes; or two new eyes, making four eyes; or if the incisions were very deep, then, instead of a new piece being supplied, the parts would divaricate, and form two perfect heads. The limits of this report, preclude many important and curious matters relating to this wonderful little animal. The doctor concluded, by stating, that it is his intention to renew his inquiries in the approaching season; and that he had reason for believing he should be able to discover other circumstances in the history of the planaria, no less interesting than the foregoing. On the table were two living double headed planaria. The meeting adjourned until the last Tuesday in March, which is the anniversary of the Society.

[*Literary Gazette.*

A Dutchman's Breakfast and Raccoon Hunt.

In de morning ven you kits oop, I dakes a rite; unt ven you kums tre order vour mielt I trink a chill of shinn; den ven you kits tre mielt furder, I trinks anuder chill of shinn; unt ven you ish peen kum to my brudder Mycallsh vun oder mielt stones fuder, I trink a tird chill. But I tell you vat I eats for mine breakfast.

25 Ekks—3 piskits,
1 tuzen picklet herrinks,
2 oder tre puntches liddel rettishes,
haaf tuzen liddel piskets,
1 ret kappiges unt vinegars,
15 kups of coffee,
1 oder 2 chills of shinn,
wid oder nig nags;

Unt I dels mi brudder Mycallsh if he ish cot any coot cidersh? unt he asked me "yish he's cot sum excellent sour beer, unt he's sorri its peen all gone." Den mi horse Tobbins unt me kit mount our sottles upon our pellies, wid mi brudder Mykallsh hors on him, unt rite as if de fery tivels was before us, to hunt de Harracon, unt I dels mi brudder Mycallsh if I will climp de dree oop, unt shaak town de Harracoun, so ven we hat peen shase in got vice, he climp de tree oop, unt I catsh him pehints; but de tivel skin mate vaater in mine eyes, unt plint me sod dumble from de pottom of de dree to de top, shlaam pang, valt on preeches pehindt, unt my brudder Mycallsh "slupoy mi dog Fowler." "Get out you tivels skin!" "vant is it you?" "to be sure it is." "Be you tead?" "to be sure I am, for mi collar pone is proke." So ve catsh nobody, but vun tam dumble; unt prake my pipes unt tupacco, pesites spill all my shinn pottles in a hundred pit into the pargain.

To split granite quarries in India, long grooves are cut in the rock, two inches deep, in which, fire is kindled and kept burning till the rock is heated, when cold water is poured into the groove, and masses six feet thick and eighty in length are thus detached. Some of the blocks are supposed to weigh 500,000 pounds.

THE FARMER.

Baltimore, Friday, May 13, 1831.

Grape Seed, New Varieties of Grapes.—The Editor of the American Farmer has received from N. Herbemont, Esq. about a gallon of grape seed for distribution among those persons who are willing to attempt the production of new varieties of grapes. There are three parcels of seed; one from Herbemont's madeira, one from the Lenoir, and the other from the Blands Madeira, the Isabella, and the Arena mixed. The first is a well known hardy variety, and the prospect is very fair for producing from the several varieties many valuable new seedlings, and we invite gentlemen who have facilities for the experiment to call and obtain a portion of the seed. The Editor has planted half a pint of each parcel, and should the remainder not be called for during the ensuing week, as the season is getting late he will plant the whole, and distribute the plants at a future season at a price which will merely defray the expense. But it is hoped that the patriotic intentions of Mr. Herbemont will be seconded by gentlemen more competent both in means and skill for the accomplishment of the object. It is by such means alone that the vine countries of the east have obtained so many excellent varieties of grape adapted to their various climates; and it is by such means alone that the United States will be able to do the same. Mr. Herbemont by this means has produced one of the best, if not the very best, wine grapes now cultivated in the United States, (the Herbemont Madeira;) it possesses the important quality of withstanding all the severities and vicissitudes of our various climates; is a full and sure bearer, and its fruit inferior to no other for wine. The production of one vine of equal value would be a rich reward for the trouble and expense of the experiment now recommended. As the season is late we would recommend persons who may plant the seed to soak it in hot water for 12 or 24 hours previous to putting it in the ground. We would also recommend trenches to be dug two feet apart one foot deep, well rotted stable manure put in six inches deep, the trenches filled with sandy loam mixed with chip manure, and the seed sown in drills, like radish seed, along the top of them. A pint of the seed might thus be put in six or eight square rods of ground.

Frost.—We had a very severe frost on the night of the 9th and 10th inst., which it is feared has destroyed much fruit and early vegetables. In the Editor's garden, the melon and cucumber vines were partially injured, notwithstanding they were in a very favourable situation, having the advantage of a high hill on the north. The sweet potato vines, in the same situation, were also injured. The egg-plants and tomatoes, the former in an exposed situation, were untouched. The nursery of young *morus multicaulis* received partial injury, by the destruction of a few of their leaves, some of which were five inches in diameter. The white Italian mulberry escaped without any apparent hurt. The peas, beans, corn, and other vegetables, do not appear to have suffered. But the most important fact established by the occurrence of this frost, is that of the hardiness of the *Aracacha*. Seventy-five plants of this vegetable were on the north side of a board fence, with a full northern exposure, and have not suffered in the least by the frost, while some cucumber vines near them were cut off. We hear that in the country extensive injury has been done to the fruit and vegetables.

The Wheat Crop.—A gentleman in Jefferson county, Va. in a letter to the editor, dated May 10, says, "The wheat is, I fear, suffering excessively from the ravages of the 'Fly,' and the unpropitious season."

Chenopodium Quinoa.—The Editor of the American Farmer acknowledges with gratitude, the receipt of a bottle of seed of the Chenopodium Quinoa, or Peruvian rice, from J. S. Skinner, Esq. late editor of the Farmer. This seed will be immediately planted in the Editor's grounds, and every precaution and attention observed to ensure its successful cultivation, and the result made public through the medium of the Farmer. Should success attend this experiment, the country will be additionally indebted to the patriotic efforts of Mr. Skinner, in behalf of its agricultural interests. We shall next week publish the correspondence which accompanied the Quinoa.

☞ No. 2 of Mr. Ismar's Essays came to hand too late for this number—it will appear in our next.

Prices Current in New York, May 7.

Beeswax, yellow 22 a 23. *Cotton*, New Orleans .10 a .12; Upland, .8½ a .10½; Alabama, .9 a 12. *Cotton Bagging*, Hemp, yd. 18 a 20; Flax 12½ a 16; *Flax*, American, 7 a 8.-----*Flaxseed*, 7 bush. clean .---- a .—— *Flour*, N. York, bbl. 5.87 a 6.00; Canal 6.00 a 6.37½; Balt. Hwd. st. 6.12 a ——-; Rh'd. city mills —— a —— country, 5.67 a 6.00; Alexand'a, 5.87 a 6.00; Fredericksburg 5.75 a 5.87; Petersg 5.87 a — ——; Rye Flour, 3.75 a 3.67; Indian Meal, per bbl. —- a 3 75; per hhd. 17.75 a 18.00 *Grain*, Wheat, North, 1.25 a 1.28; Vir. 1.12 a 1.18; Rye, North, 77 a 78; Corn, Yel. Nor. 74 a 75; Barley, 80 a 81; Oats, South and North, .31 a .35; Peas, white, dry, 7 bu. 5. Beans, 7 bu. 7.00 a 8.00. *Provisions*, Beef, mess 8.50 a 9.25; prime 5.50 a 6.25; cargo 4.62½ a 5.00; Lard, 7½. a .9; Pork, mess bbl. 14.00 a 15.00; prime 10.50 a 11.25.

A JACK.

Will stand at Shealy's Tavern, on the York road, seven miles from Baltimore,

THE VERY EXTRAORDINARY FINE

JACKASS WARRIOR.

Warrior is five years old this spring; was imported when a colt, and is now full fifteen hands high; of great strength and vigour, of remarkably fine disposition, and has proved himself to be a sure foal getter. Warrior is supposed to be the largest Jack ever brought to the United States. Those persons who wish to possess really fine Mules, have now an opportunity of obtaining them, which is rarely met with.

WARRIOR will stand at Shealy's Tavern on the York road, seven miles from Baltimore at *Ten Dollars* the season for each mare; the season to commence 1st of May, and end 20th of July—*Five Dollars cash* to be paid for the single leap; and *Fifty Dollars* for every jennet.

N. B The proprietor of Warrior will give $30 for every Mule got by the above Jack foaled by fine mares, not less than sixteen hands high, if delivered in good condition at six months old at Shealy's Tavern, in which case no charge is made for the services of the Jack. *May* 13.

HAY AND MANURE FORKS.

IN STORE, Hay and Manure FORKS, at wholesale and retail, manufactured by Samuel Boyd & Co. Also, a general assortment of Implements of Husbandry, on hand as usual.

J. S. EASTMAN,
No. 36 west Pratt-street.

N. B. Wanted immediately, 20 cords of prime white Oak Butts for Plough Timber, six feet long, from 10 to 16 inches diameter at the small end, for which I will pay ten dollars per cord. J. S. E.

WOOL WAREHOUSE.

LYMAN REED,

Commission Merchant, No. 195, *Baltimore street.*

Devotes particular attention to the sale of WOOL. Any consignments of the article forwarded to him for sale, can be disposed of immediately for CASH, at the highest market price.

CASH, and a fair price, will be paid for a few thousand pounds of *good wool*, (if offered immediately,) to supply orders now on hand.

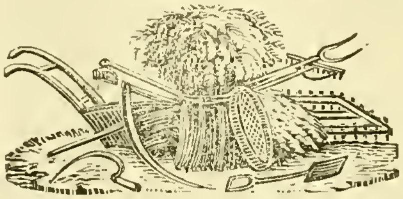
Refer to Messrs. Cobb, Wyman & Co. Baltimore.

AGRICULTURAL BOOKS,

For sale at this Office.

THE GROOMS' ORACLE, AND POCKET STABLE DIRECTORY, in which the Management of Horses generally, as to Health, Dieting, and Exercise are considered, in a Series of Familiar Dialogues, between two Grooms engaged in Training Horses to their Work. By John Hinds, V. S. author of "the Veterinary Surgeon." From the second London edition, with notes and an appendix, including Extracts from the Receipt Book of the Author.—Price $1.

CONVERSATIONS ON VEGETABLE PHYSIOLOGY; comprehending the Elements of Botany, with their Application to Agriculture. By the author of "Conversations on Chemistry," "Natural Philosophy," &c. &c. With copperplate engravings.—Price $1.



SINCLAIR & MOORE,

Pratt Street Wharf,

OFFER for sale a full supply of their new improved PLOUGHS, of different sizes, both wrought and cast shares—also many other approved kinds, constituting an assortment, from which agriculturists can be supplied with those adapted to all kinds of land. Hill side Ploughs; double mould Ploughs; Double and Single Shovel Ploughs; corn and tobacco Cultivators, with wrought and cast Tires; grain and grass SCYTHES; Scythe Sneads; and are now preparing a large stock of GRAIN CRADLES, on which will be hung the best quality Scythes, and be in readiness to supply the demand at an early period.

Also now on hand, a large stock of their improved WHEAT FANS, which will be constantly kept up.

Just received an additional supply of fresh GARDEN SEEDS and Garden TOOLS, Hay and Manure FORKS.

N. B. MILLET SEED WANTED.

April 22.

SALE OF SAXON SHEEP.

On *Tuesday* the 31st day of May, at 10 o'clock, A. M. at *Brighton*, near Boston, will be sold at auction, by order of assignee, the entire flock of ELECTORAL SAXON SHEEP, imported by George & Thomas Searle in 1826, with one half the increase of the flock since, consisting in all, of about 200 BUCKS and EWES. This flock has been the last four years under the care of Samuel Grant, Esq. at Walpole, N. H. and is well known to all the growers of fine wool in that part of the country, rendering any description unnecessary.

Gentlemen interested in the improvement of the growth of fine wool, in distant parts of the country may be assured that, as a flock, these sheep are decidedly superior to any other ever imported into the U. States, and that the wool has not depreciated in quality, as an evidence of which the clip of last year sold, before any material rise had taken place in the market, at $1.33 per lb. for cash.

They may also rely that the sale will positively take place as advertised. COOLIDGE & HASKELL, *Auctioneers.*

April 22.

Agents for the American Farmer.

The following persons are authorised to act as Agents for the American Farmer in their several places of residence:

Boston,	John B. Russell, *N. E. Farmer Office.*
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Philadelphia,	D. & C. Landreth, *Chestnut street.* B. E. Freymuth.
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Natchez, Mis.	Frederick Staunton.
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General Agent for the State of Maryland, T. B. Brenan.

BALTIMORE PRICES CURRENT.

Baltimore Market.—There is an improvement in the flour business, though the prices remain as before. Some dealers still decline selling at the present rates. The wagon price of Howard street yesterday, was $5.37½, and sales have been made from stores at $5.50. The receipts this week have been quite extensive. In grain there is no change—all the wheat that comes to market meets ready sale at our quotations. Beef remains stationary.

Tobacco.---Seconds, as in quality, 3 00 a 5.00; do. ground leaf, 5.00 a 9.00.—-Crop, common, 3.50 a 4.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 10 00; yellow and red, 8.00 a 14.00; yellow, 14 00 a 16.00.—Fine yellow, 16.00 a 20.00.—Virginia, 4.00. a 5.00.—Rappahannock, 3.00 a 4.00——Kentucky, 3.50 a 8.00. The inspections of the week comprise 337 hhds. Md.; 43 hhds. Ohio;—total 380 hhds.

Flour—best white wheat family, $6 75 *a* 7.25—super. Howd-st. 5.50 *a* –; city mills, on time 5.50 a —; Susq. 5.37½ *a* —-; Corn Meal, bbl. 2.25; Grain, Md. red wheat, 1.10 *a* 1.20; white do. 1.20 *a* 1.30, Susq. 1.16 *a* 1.18-Corn, white, 68 *a* 70- yellow 68 *a* 70-Rye, 65 *a* 70. Oats, .33 *a* 34. Beans, 75 *a* —-Peas, 62½ *a* 65-—Clover seed 4.50 *a* 4.75-Timothy, 2.00 *a* 2.50-Orchard Grass —— *a* ——-Tall Meadow Oat Grass 2.75—Herd's, 50 *a* 75-—Lucerne 30 *a* 37½ lb.—Barley, 62½—-Flaxseed 1.25 *a* ——Cotton, Va. 9 *a* 9½———Louisiana 11 *a* 12—Alab. 9½ *a*. 11—-Tenn.. 9 *a*. 10—-N. Car.. 9 *a* .9½-—Upland 9½ *a* 10½-Whiskey, hhds 1st p. — *a* 29½-; in bbls 31½ *a* 32—Wool, common, unwashed, lb. 25 *a* .30-——washed, .36 *a* .40-crossed, .37 *a* .42--three-quarter, .44 *a* .48--full do. .48 *a* .58, accord'g to qual.-Hemp Russia, ton, $255 *a* 260---; Country, dew-rotted. 6½. *a* 7c. lb.--water-rotted, .7 *a* 8c.-Feathers, 32 *a* 33-Plaster Paris, per ton, 3.75 *a* 4.00, ground, 1.37½ *a* —-bbl.—-Iron, gray pig for foundries per ton 33.00 *a* ——; high pig, for forges, per ton, 28.00 *a* 30.00; bar, Sus., per ton, 80.00 a 85.00.—Prime Beef on the hoof, 6.25 *a* 6.50—Oak wood, 3.00 *a* 3.25—Hickory, 4.50 *a* 4.75—Pine 2.00 *a* 2.50.

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EDITED BY GIDEON B. SMITH.

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TERMS.

1. Price five dollars per annum, due at the middle of each year of subscription.
2. Subscriptions are in all cases charged *by the year*, and never for a shorter term.
3. When once sent to a subscriber, the paper will not be discontinued without his special order; and then not till the end of the year of his subscription that shall be current at the time of receiving such order.
4. The risk of mail in the transportation of both the paper, and of bank notes sent in payment for it, is assumed by the publishers.
5. Advertisements connected with any of the subjects of the American Farmer, inserted once, (seldom more) at one dollar per square.
6. All letters concerning this paper must be directed to the publishers. They must be free of postage, except communications intended for publication, and letters containing money.

☞ All Postmasters are requested to act as agents for the Farmer; they are authorised to retain $1 for each new subscriber, and 10 per cent. on *all other* collections.

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AGRICULTURE.

ESSAYS ON AGRICULTURE,

BY F. A. ISMAR.

No. 2.

The dung materials are very different in their qualities and forces, by which they influence the plants. The dung of animals may be considered as submitted to the following rules, viz. well fed and fat beasts give more and better dung, than lean and ill fed animals. The quantity of dung depends also upon the quantity of pasture, the strawing and the further treatment. Show cattle give the best dung. The dung of horses is dry, warm, and abounds with salt. It consumes itself very rapidly by its rapid and hot fermentation. Its penetrating fomentative products are injurious to the vegetables. It is most fitted to warm the hot-beds, and on wet, cold clay. It is excellent to be mingled in strata on the general dunghill. The dung of cattle is the softest and best. It ferments slowly without strong heat and lasts the longest in the earth. That moderate fermentation makes it fit for every soil, and represents it as the quintescence of each dunghill. The sheep dung ferments dry and rapid, but is too hot. The plants can bear it only in small portions; and it does not last long in all kinds of soil. It is very good for indolent, heavy, cold, clay grounds, because it warms and enlivens them. The dung of goats has the same qualities, while that of hogs is exactly the reverse, mild, aqueous, slowly fomenting, and little hot. Some call it for that reason the cold and indolent dung. But in meadows and nurseries it is of great utility, and mingles usefully on dunghills. The dung of fowls is strong, very nourishing and dry. The plants digest it not in large quantity, for it is hot and of a penetrating nature. But ordinarily, that excellent dung is to be had only in small portions. Where there is a large stock of poultry, it is adviseable to collect it in a particular hill. In larger quantities it is very effectual on superficial manuring of the grain, and is an estimable stimulant of the *ley*. The best and warmest of all dungs is that of pigeons, fitted for every kind of culture, and giving very remarkable advantages also in small portions. But in order to bring its effects into activity the interference of rain is necessary; without which it would burn every thing, and be therefore more obnoxious than useful. In gardens and vineyards it does the best services; in Holland, it is advantageously used to strew over linseed fields. The most powerful of all dungs are the excrements of man. It ferments exceedingly quick, is hot and penetrating. It requires to be mingled and brought on the dunghill with great precaution. If it should be used by itself, it is best mingled, f. e. two cart loads of human dung, one of lime, and ten of earth, by which man obtains the best dung after a short period for an acre of wheat or barley. But this excellent dung is almost entirely lost in all countries by the stupidity and negligence of man. In this respect we live almost in a kind of wild state, we preserve it during months, and often years in our houses, where it destroys the foundations of the buildings, pestiferizes the air in the room, and therefore contributes to ruin the health. Some people are fools enough to purposely place their privies near their dwelling houses. By this long preservation, and the evaporation within the houses, the best power of it is lost, and by the privy houses in free air the sun produces the same result. In order to avert all these inconveniences there is but one means, and it is at the same time the most useful to man, and for the acquisition of the whole mass of this excellent dung, viz. the introduction of moveable and *inodorous* privies. Should the police, so carefully collecting fines for actions, which often are not only offences against the existing laws, (I speak of all countries I have seen, and not only of the United States,) should they not take a step to protect in this way the health of the citizens, and to forward agriculture, without whose progress neither mayors nor aldermen could have so pretty dinners for the money of the poor people, who often labor with hunger, while their servants luxuriate on their blood and sweat? They certainly will say, that such privies cannot be every where introduced; but that is not true. They can be introduced in old, as well as in new buildings. They consist of two barrels. The one is united by a cap with the privy beam going down the *building*. The first or principal barrel receives every thing, and has a double bottom with a *copper strainer*, by which the liquid is separated from the excrements and collected in the lower bottom, wherefrom it passes into the inferior or second barrel connected with the first by a zinc pipe. By this separation of the excrements from the urine, the bad smell is prevented. As soon as a barrel is filled it is emptied on the dunghill, or what is better, on a particular compost dunghill, i. e. on earth, and other remains, ready to be covered with the excrements. In a few months an excellent dung is obtained. It is also good to have a water tight hole for the urine, which immediately is to be mingled with nine times its quantity of water, and to add some handfulls of *unburnt* limestone. In a few days the best liquid dung is thus obtained. The expenses for such a privy are inconsiderable. It consists of two barrels, which every carpenter of a village can make, and the zinc and copper apparatus may also be had for a trifling sum. The barrels may last from thirty to forty years, especially if always cleaned with water, when emptied.

Among the other dung materials the decomposition of animal bodies is best done in pits. The bodies are covered with lime and earth. The dissolved mass is mingled after some time with a tenfold quantity of vegetable mould. The effect of this manure is extraordinary. The bones are either decomposed by lime, or (which is better,) used in the form of powder. This powder is sown at the same time as the seed, or shortly after it. Fields of wheat, tobacco, beans, peas, turnips, artificial and natural meadows improve extraordinarily by it, and all weeds are destroyed. This powder can be obtained nearly without expense. The bones collected in butcheries and kitchens where they are considered as useless, are dried and thus cautiously toasted in a lime or bake-oven, and finally pulverized. A hogshead of bones gives 1240 lbs. of meal, to which added 100 lbs. cook or dung-salt are the most excellent manure. Fields and meadows obtain by this method a thrice, and often six times higher value. The other remains of butcheries should be managed like animal bodies in a pit. After ten days the mass may be turned and again mingled so as to add ten carts of earth to one cart of the first mixture. Then the whole must remain quiet during a month, before they are used. This manure is best used in the spring to strew grain, meadows and food herbs.

The remains of manufactories and workshops can either be prepared for dung or thrown upon the general dunghill. In the first case, f. e. wool shreds are to be cut in pieces of one or two inches square, to strew over the earth and to plough under. They give to a light soil the advantage of retaining the humidity of rain and dew. Remains of leather, horn, hairs, old shoes, &c. are of the same use with trees, &c. All these remains. decomposed with ashes and lime, and thus mingled with dung become a very good manure. Asparagus, flowers, and gardens in general cannot have a better manure than putrid wood. *Oilcakes* are ground, and previous to the last ploughing, the powder is strewn over a light soil. Six parts of *oilcakes* and one of lime, mingled together, are very advantageous to every soil, but most particularly to cold loam ground, if strewn over the seed, especially of wheat. But this mixture can only be used after ten days, when frequently turned during that time. In order to avoid grinding, they are in several countries thrown into the ley. England and Holland have the greatest advantages from these oilcakes. The remains of oils are also good manure. There is made a mixture of warm potash at equal parts, which are frequently moved within a barrel, four fifths of boiling water are added, and the barrel again well turned. It can be used in its liquid state, or mingled with vegetable earth. The oils are also mingled with putrifying animal or vegetable parts. All shed plants of the earth and the water are by themselves natural dung materials. The water plants must previously be dried, collected in masses and mingled with three parts of vegetable earth. So the mass remains eight days, is turned, and a portion of lime added. So the leaves of trees, and stopples are used, if not strewn in the stables. The plant of potato strewn over clover fields manures also exceedingly. The mud of lakes, rivers, rivulets, and swamps is a good dung, used either as it is or mingled with lime. It forwards the fertility of a light soil, and is as advantageous in meadows as in fields. Mingled with lime, chalk, or stable dung, and remaining in rest for some time, it is best fitted to fertilize heavy seed fields and meadows. The dung of the streets possesses the most powerful materials to forward vegetation. It serves to mingle with the excrements of privies or on the dunghill. The rubbish of walls should be carefully collected, in order to be mingled with other dung or earth. Malt stuff is with propriety much esteemed as dung. It is strewn over the green barley, clover, turnips, &c. The water itself in which barley has been malted can be used, for it contains a great portion of that vegetable spittle, taken from the barley. It is best when mingled with ashes.

Tan, when putrified and strewn over a meadow has an extraordinary effect. Mingled with lime or salt that effect is still greater and more rapid. Man acts best with it in washing it when coming out of the pit and mingled with an equal portion of horse dung; this composition is to be protected against rain, but not to become entirely dry. After the first fermentation a second portion of fresh horse dung is added, by which a new heating begins, which must remain till cooled. This now gives by means of lime a compost which has the best dung power. Soot is such an excellent dung, that it should be more carefully collected. By itself it operates best in a sandy, limy soil. A mixture of two parts of soot, two of lime, and ten of earth is strewed over the green winter seed in the spring, and immediately over the summer seed, when it begins to become green. Previously to use, the lime, the soot, and the earth must rest quiet a fortnight after having been mingled. After that period it is well turned; the lime laid over and after further six weeks it is ready to use; but then the whole is cut in as small pieces as possible by the spade. For humid meadows this compost cannot be enough recommended, for it frees them the best from moss and miss. The turf previous to being manured is to be dried; when it becomes almost powder, it is accumulated three or four feet high and covered with stable dung. After some time, in order to forward fermentation, the whole mass is turned, which operation is repeated after three or four weeks, and then one-fifth of lime is added. In a few days an excellent manure is obtained. This result can also be obtained without stable dung, in basting it with dung ley, or in mingling it with potash, soda, chalk, &c. 100 lbs. potash suffice to be saturated with the acid of such a quantity of turf, as is necessary to dung an acre of land. In a light sandy, limy soil, turf is not only a very advantageous manure, but it contributes also to give more cohesion to the soil. For a loamy soil it is not very recommendable. Pulverized, it is strewn over the seeds or bad meadows. In Holland and England there is another kind of making use of the turf, i. e. by burning it first to ashes. These turf ashes have produced surprising results. In the spring sown over young clover, it secures rich harvests, and in the next year very much wheat. The ashes are carefully sown out of the hand on a still and misty morning. Sown on each little hill where a hop plant grows, it has a good result and kills in the same time all obnoxious vermine.

The various kinds of urine contain many salts, alkalies of animal matters, and therefore great dung forces; but that of man possesses these qualities in the highest degree. It is used in two ways: first as mixture, and second as ley. In the first case either the dunghill or a mass of earth, turf and lime are watered with it, and so is produced a compost manure for a light, sandy, and silicious soil. Many agriculturists form also a kind of thick liquid by adding to the urine, earth, turf, lime, plaster, ley, slaked ashes, remains of wool, &c. in order to water the fields with.—The *dung ley* is the most eminent manure proceeding from that urine, a kind of dung spirit, a drink for vegetables prepared from dung and urine. The plants find nothing so nourishing as this liquid, composed by one part of fresh prepared manure and urine, and three parts of water. The process of obtaining it is the following: the stable in which, on both sides are the animals, must have in the midst a large way, on whose right and left side is a gutter twelve inches deep and as many broad. In the ordinary dung time these gutters are half filled with water, in which is brought the fresh dung with straw and urine. The whole is carefully moved in them with a fork, and trampled firm by the servants with their wood shoes, so as to press out the dung. Under these two gutters there are two reservoirs made with ordinary oak timber of the best quality, but water proof, and six feet deep. It is still better to have them out of the stable in order to prevent a bad smell. In every case there must be out of the stable a large reservoir, in order to empty therein the small ones, which is done by means of a spigot. The remaining dung is brought on the dunghill. When in this way all fluid of the gutters is emptied into the small reservoir, the triple quantity of water is to be added, if from show animals the quintuple, from horse and sheep urine the quadruple, from human urine nine times as much. Now the mass empties in the large reservoir, where it ferments. During the summer it is done in a fortnight, during the winter in four or five weeks, and in a reservoir of a very large size in two months. In adding human urine, half the time is gained. When the ley foams no more when moved, but is covered with a kind of skin, the ley is done. That skin is taken off and brought on the dunghill. It can be brought on the fields at any time, except during rain, very strong winds and heat. During the winter it is strewn on the snow which covers the seed, also on meadows. The same is done in the summer on all seed and meadows, but on the latter never when the grass is already too high. On clover it is done immediately after each cutting. The effects of this ley overtop all ideas. To use it in this way barrels are placed on a cart with broad wheels and with one horse. In order to distribute it equally on the fields, and to prevent the obstruction of the hole of the spigot, there is a small board in the middle of the cart, upon which falls the liquid and spreads round like rain; further a stick should pass from the upper part of the barrel to the bottom, which always plays within the hole and prevents its obstruction. There is to be made a ley from each kind of urine previous to its use, for in its natural state it is highly obnoxious and burns the plants.

The cleansing water of the kitchen, the liquid of butcheries, wash-houses, distilleries, breweries, workshops, fabricks, and baths must be collected in the urine-reservoir, or better in a special reservoir, and there remain for fermentation. When done it is used like the dung ley, and is excellent for seeds and meadows.

The water of flax and linseed dairies, when spread over meadows is superior to urine, and its application so as the use of the remains at the bottom of the pits destined to this toasting, is highly recommendable. The mud remaining on the ground after the high-waters of the rivers, does the same on our fields as the Nile does in Egypt. They happen in Italy and some parts of Germany, frequently. Rivers or branches of them are conducted in closed places, and the water there retained till the mud is settled, in order to level the low grounds successively, or as it also is the case, to gain a new mass of dung.

The *green manures* are all crops ploughed under. The more succulent the plants the more usefully they are: peas, beans, clover, &c. but particularly wheat and rye in full blossom. Stopples halding are to be avoided if great utility shall be produced. But the advantage is still increased, when previous to the ploughing the green field is sown with lime, chalk, or plaster. In my first number I have already spoken of the establishment of Messrs. Hood & Downes, at Bristol, wherefrom, I think this very day, to take a quantity for Bolton, where the result, I think, shall convince the most incredulous.

In the third number I shall treat of the dung means, their qualities and treatment.

ON THE WEEVIL IN WHEAT.

Mr. Smith: *Nelson County, Ky. April* 28, 1831.

Wheat being one of our most valuable crops, and the weevil its greatest enemy, facts tending to enable the farmer to prevent its ravages must be acceptable. Believing that the facts noted, and the observations made by myself several years past, may have that tendency, or lead others to make observations that will, I am induced to transcribe the notes and observations I then made, and forward for the American Farmer.

As early as convenient after harvest in 1825, I got out some wheat for present use, and put it away on a plank floor in an upper room over the kitchen. During August, I heard much complaint among my neighbours of the ravages of the weevil in their wheat, and was induced to examine my own. I found that which had been cleaned out much weevil eaten, while that in the chaff, either in the barn or stack, was much less affected. I recollected that some, though very few, were to be seen when the wheat was got out. The extraordinary, and so greatly disproportionate increase of the fly in the cleaned wheat, set my mind at work to find out, if possible, the cause of that difference.

I had heard of two theories on the subject—the first, that there was a living principle in all wheat, which in a particular state of heat and moisture, would become animated and produce the weevil. The second, and more common one was, that there was some parent fly which resorted to the field, and impregnated the grain during its soft state, in the manner that a fly is known to do in the garden pea. The situation of the cleaned wheat, over a room in which there was always more or less fire, was in some degree favorable to each of these theories—yet on reflection I doubted the truth of either. I argued thus. If there is a principle or quality in the grain, which a given state of atmosphere could animate, so as to produce an insect, the effect would be so general, and so extensive, in the climate where it operates, as to destroy *at once*, whole crops of grain—whereas it was well known, that when the weevil is first discovered, its ravages may be arrested in various ways. And moreover, if this theory had been correct, it must long since have been detected by the investigations of science. As to the impregnation by a parent fly, I considered—that the period during which the operation should take place, must of necessity be short, say from five to ten days, immediately preceding the ripening of the grain. When we reflect on the immense number of grains destroyed in a bad weevil year, it is obvious that if the number of flies requisite to impregnate all these grains, in a few days, should resort to the wheat field, the number must be so exceedingly great, as often to have attracted the attention of the vigilant and intelligent agriculturist; such, no doubt, would often have seen the parent fly in actual contact with the grain in the ear, as in case of the pea. Again—if all the grains become impregnated within a few days of the same time, it should seem probable at least, that the coming forth of the weevil would be equally simultaneous—whereas it is well known, that after the weevil fly begins to appear, it progresses with increased ratio, till checked by the cold of autumn.

Distrusting these theories, and seeing the great increase on wheat to which the fly had free access, I was led to the supposition that there must be a continual increase, by propagation, during the warm season. This suggested the idea of borrowing a magnifying glass of a silversmith, for the purpose of a more minute examination than I was capable of making with my spectacles, which age had obliged me to use.

On the 22d of August, by the use of the glass, I discovered what I had never heard of before, the eggs, or nits, of the grey weevil fly on many grains of wheat. They were generally of a pale redish color, somewhat brighter than the color of the wheat, though some of them were nearly white. These eggs were mostly deposited in the crease or indenture on one side of the grain, and adhered with a slight degree of tenacity. A number of these grains with eggs or nits on them, were selected and put away in a saucer. They were examined each day, but no perceivable change until the 27th, when instead of the transparency which they had exhibited, they appeared to consist only of a coat or web of the thinnest conceivable texture. On pressing them they did not crack as before. On closer examination a number of small worms were seen, remarkably active, some on the grains of wheat, and some on the saucer. On the 29th there was scarce a nit to be seen in its original transparent state, so that all the eggs or nits on the grains which had been put in the saucer, had been hatched in about three days. I entertained no doubt that the little worm had proceeded from the egg. And from the frequent attempts which it appeared to make to penetrate the grain, by its assiduous exertions at one spot, I was led to the opinion that it did actually eat its way through the bran into the grain.

I was then desirous to ascertain whether the eggs or nits I had seen, were really those of the weevil fly. To this end, I confined three of those flies in a glass tumbler, by covering it with a book, and put several grains of wheat in with them. I continued to notice them daily, till about the sixth day, when I found that two of the flies were gone, having been let out as I supposed by the children, and one was dead. On examination, I found three different bunches of nits on the bottom of the glass, precisely like those I had seen on the wheat. By the help of the magnifying glass I could count them, there were upwards of twenty eggs in each bunch, the eggs in each several bunch adhering together. This experiment I again repeated, with the same result, except that the number of eggs were fewer.

During my attention to this subject, I became enabled to pick out, almost unerringly, the grains of wheat that had worms, however small. I found them from the smallest size, scarcely larger than those I had seen in the saucer, up to the size of the maggot just before going into the chrysalis state. I also could discern the hole, through which according to the opinion of some, the parent fly had deposited the young in the grain, or through which, as was my own opinion, the worm itself had entered. This hole was not larger than would admit the point of a very small needle—too small for the naked eye of most persons. The grains impregnated, I found vastly more numerous among the cleaned wheat, than among the unthreshed.

On the unthreshed wheat I found the nits on the heads, generally on the inside of the outer coat of the chaff, sometimes on the outside, rarely on the grain. It was discovered at the same time that the weevil was flying about the Indian corn in the crib. I found on examination much of the corn perforated, as the grains of wheat are, when the weevil has left them. It was easy also to distinguish the grains that contained worms in the maggot or chrysalis state. I also saw in many instances the small hole, through which the worm had entered. The eggs or nits precisely similar in appearance, I found also, generally on the cob, where some grains had been shattered off. In both the wheat and the corn, the hole was generally in that softer part of the grain from which the germ or bud proceeds—the part most difficult to be got at by a parent fly supposed to impregnate the grain.

These facts coming under my observation, when taken in connexion with one of general notoriety, to wit, that the progress, or multiplication of the weevil, is in an increased ratio during the season of its continuance, when not arrested by the hand of the husbandman, go in my humble judgment to prove, that the weevil reproduces its own species in short periods during the warm season—and always most, where they have free access to the grain. To establish my position beyond a doubt, there is only one link wanting in the chain of facts stated—and that is, the actual entry of the young worm hatched from the nit, into the grain. This I did not witness. The extreme smallness of the object, and the weariness to the eye, and to the neck indeed, by a long application of the glass, prevented me from satisfying myself on that point. Yet from the intense exertions of one of those little creatures, at one spot, and his repeated return to it, I fully embraced the opinion that the worm, the produce of the nit, does thus eat his way through the bran into the grain. If not, these worms must produce some other insect, the immensity of whose numbers, about the barn and stack yard, would have attracted attention.

The importance attached to this theory, if it be the true one, consists in the conviction on the mind of the farmer, that when reaped, his wheat is not materially injured—and that by due vigilance he may secure it from the ravages of its greatest enemy, the weevil. Three modes of preserving it, obviously present themselves—first, to place it in a situation *to exclude the fly that is on the wing*, thereby to prevent the deposite of its eggs. Secondly, by the application of heat, so as to destroy the worms in, and the eggs on, the wheat—or thirdly, to keep it in a situation too cool to admit of the hatching the eggs, and the growth of the worm. I am, very respectfully, T. S.

(From the New England Farmer.)

ON THE CULTURE OF INDIAN CORN.

We all know that what is good husbandry for one kind of soil, or one location, or for one farmer, is not of course, for another.

Corn may be grown, and perhaps with profit, on different soils, with a proper tillage for each. Location, that is as to the value of the use of the land, the nearness to a market, and the facility with which manure can be procured, must be regarded.

A large forehanded farmer can often do to advantage what would be ruinous to one differently situated. But this should not deter us from drawing all the advantage we can from the experience and observation of that class of farmers, occupying the most feasible and level lands; and when we cannot imitate the course which has proved useful to them; to substitute, according to our best judgment, some method nearly resembling that which may be equally useful to us.

I was led to these remarks by reading in the New England Farmer, Mr. Phinney's address, and therein his statement of his mode of raising corn on green sward. This I had before read in 1829, and it struck me, then and now, that we in this hilly country, with fields of a very uneven surface, could not imitate him exactly. But we had long before adopted a course of tillage, which I think possesses all the utility of his, and avoids much of the labor and trouble to which that is subject. My method with green sward, and I plant no other with corn, is this:—In the spring I feed my land intended for corn as close as possible, till within about a week of planting time, get on my manure, and spread it. The field then is, as we term it, ploughed into ridges, that is, the slices of two furrows turned together, so that the edges of the two will about meet, leaving a narrow balk, or space of unploughed land, between the ridges. In about a week the corn is planted on the ridges, at the junction of the two furrows, without any regard to rows crosswise of the ridges, as they are not to be ploughed across.

At the first hoeing the balk is ploughed up, and the sward on it turned over, or broken in pieces. At each of the two other hoeings, the spaces between the ridges, or rows of corn, are very lightly ploughed, and the ground, mixed with the manure left on them, drawn up by a hoe to the hills of corn.

By this mode of cultivation, the manure is all saved, being mostly covered with the furrows, and kept free from the weather, and that left on the balk, well mixed with earth by the first ploughing and hoeing of the corn before the dry hot season commences. The sward is all decomposed, and nourishes the corn at the season when it is most wanted —that is, when the ears are setting, growing and filling out.—It is no objection that part of the surface of the ground is not cut up with the plough, but covered with furrows, for that becomes as mellow as the other, and equally useful to the crops.

If the sward be tough, the first hoeing will be slow and laborious, but the other two not more so than when the ground is, by ploughing and harrowing, made mellow before planting; and much time and labor are saved in preparing it for planting. In the early part of the season, the corn will not appear very promising, and will be uneven, and perhaps will not produce as great a crop of stalks as in the other way; but at the time of producing the ears of corn, both the decomposing sward and manure are doing their best to aid that process, and succeed to admiration. The extremes of drought or wet are much less injurious to land treated in this way than the other—the weeds are not more than half as troublesome, and the land is left in a better state.

The second year, the land is ploughed and harrowed, sowed with oats or other spring grain and grass seed, and made smooth, and then laid down for mowing or feeding. Before planting I soak my seed corn and roll it in plaster, ash it at the first and third hoeing, and put plaster on at the second.

My method of gathering my corn and stalks, is to cut the stalks above the ears at the proper season, bind and stack or pike them in the field, and as soon as sufficiently dried cut them and put them under cover. If this can be done before any great rain falls, I consider a load of stalks worth as much for fodder as a load of good hay. My cattle this year did not leave uneaten a handful to a load. When the corn is ripe, I cut it up close to the ground, with a scythe or sickle, cart it to the barn or shed, and there husk it, and keep the stalks and husks under cover till winter, when it is thrown into the yard for litter or fodder. This does not cost more labour than to pick and husk the corn, except the carting of it, and it saves a great deal of good litter and fodder, which would otherwise be entirely lost. My cattle this winter ate at least one half of these stalks.

Perhaps I have been too minute, and stated nothing but what farmers in every town in New England knew before; but if any thing has been suggested by which, with the same expense, one more bushel of corn to the acre can be grown, one day's work in a year saved to the cultivator, or one dollar's worth of fodder or manure, my remarks will be worth all they cost. The farmers in this vicinity formerly made their ground mellow, by ploughing and harrowing, before planting—but experience has taught them that the mode here described is much better in all respects, and it is now, for corn, very generally practised; and I would very respectfully suggest to Mr. Phinney, whether, considering the saving of labour in preparing for planting, which I think must be at least one half, and the safe deposite of the manure under the sod, for the corn to make a draft upon effectually, in time of the greatest need, my method of raising corn, even on his smooth and even land, would not when the succeeding crop is to be spring grain, be preferable to his: at any rate, I think it is a good substitute among our stones, hills, and holes. One of my neighbors last year tried Mr. Phinney's mode on a level, moist piece of ground, and it being a wet season, he nearly lost his crops. Had either the weather or his ground been dry, it would doubtless have succeeded.

Since writing the above I have read in your last number some remarks and queries about dunging corn and potatoes in the hill. I have often been much surprised in learning from paragraphs in your numbers, that that practice should be continued when such great improvements were making in agriculture as in Massachusetts. I had before supposed it abandoned, as one of the worst of the old fashioned modes of tillage, calculated, with much labour and trouble, to obtain a little present advantage, at the expense of keeping the land poor.

Tillage should be so managed as to improve, not to impoverish the soil. If the ground is pretty well manured at broad cast, dunging in the hill is unnecessary. If not, then this mode, if it barely pay the labor and expense, which I much doubt, will leave the land worse. I may be thought an incompetent judge, having never tried that course; nor have I ever tried feeding my children with cider-brandy to make them sprightly at the time, and good members of society afterwards, but should as soon think of doing one as the other: this I know is not argument, but strong opinion. B.

Plymouth, *Conn. March* 7, 1831.

FARMER'S WORK FOR MAY.

Lucerne.—The following observations on Lucerne are from *Arthur Young's Farmer's Calendar* for May. "This plant may yet be sown; being a perennial, and, well cultivated, yielding an immense profit, too much attention cannot be given to lay the seed in the ground with all possible advantages; that is the land should be very rich, fine and perfectly free from weeds: these requisites a man may not be able to procure in April. In such case let him not sow in April, but wait till May: and this whether drilled or sowed broad-cast: if the latter, let it by all means be sowed with buckwheat, which is preferable to sowing it alone.

"The advantages of cultivating lucerne are so extremely great that the young agriculturist should be determined at all events to have sufficient at least for the summer support of all his teams and other horses; and if in addition to this quantity, he provides also for thus feeding much other stock in his farm-yard, he will find it a most profitable practice. The proper soil depends principally on two qualities, that it be quite dry and very rich. If near the stables and yard, the convenience will be much the greater; but to choose the best land on the farm is, upon the whole, the best direction he can have. Those who at present cultivate it on the largest scale in Kent, Sussex and Hampshire, where are to be found large quantities of it, very generally have it in the broad-cast mode, and as far as positive practice goes, this method must be preferred; but as effective cleaning it, and especially from indigenous grasses is an object of great consequence, which must be executed when broad-cast by a powerful and heavy harrow, it much deserves attention, whether drilling very straight at nine inches equi-distance would not be a preferable method. Drilling has been tried by many and abandoned for random sowing; but nineteen twentieths of the drilled lucerne which I have seen, have been at 18 inches, 2 and some even 3 feet. The consequence has been a heavy expense and trouble in reaping instead of mowing; and, if the spaces are kept truly clean [from weeds and other grass] the lucerne being damaged by the pulverized earth adhering to it and carried to the racks. If drilled at 9 inches, it might once a year be most effectively horse-hoed, which would eradicate grass far better than any harrowing that could be given to a broad-cast crop, without a formidable expense, and some danger of damaging the crop, tough as the roots are. The grand object in the preparation of the ground is, to have it as free from weeds, and especially grass, as skill and perseverance can effect.

"Not less than 12lbs. an acre should be drilled, and 20lbs, if sown broad-cast. It is apt to be eaten by the fly, &c.; if it escape that damage, all is safe and the farmer may be assured that his care will be well repaid. No manuring at this period is necessary; but to sow soot just as the young lucerne comes above ground, may be beneficial against the fly. With regard to proportioning the quantity of land thus occupied to the stock intended to be fed on it; a quarter of an acre per head is sufficient for all sorts of large cattle, taken one with another, if the land is very rich and good; but on more moderate soils, half an acre per head will be a proper allowance. It is much better to have too much than too little.

From some experiments made by the Hon. Robert Livingston, recorded in the *Transactions of the Agricultural Society of New York,* it appears, that with good cultivation and abundant manuring, from six to nine tons of hay may be obtained from an acre of this grass in a season. It answers very well with red clover, and is not injured by the cold or the changes of our climate.

Mr. L. advises as the result of his experiments, 1. Never to sow on ground not perfectly pulverized. 2. Not to sow till the ground has acquired a degree of warmth friendly to vegetation, viz. in May. 3. To sow with no crop that will probably lodge. 4. If sown with buckwheat to apply no gypsum or other manure till the buckwheat is off. 5. When the quantity sown is small and the farmer can afford to lose a crop to give the ground one turn in autumn, another in April, harrowing fine, and a third the beginning of May, and then if the weather be mild and warm, sow if the ground be in perfect tilth, otherwise give it another ploughing.

When lucerne becomes yellow it should be cut and the plants will spring up free from the disorder.

The Hon. J. Lowell, of Roxbury, has cultivated lucerne successfully for 8 or 9 years past, and from time to time has favored us with his remarks on this grass, and the soil and tillage best adapted to it. His last observations on this subject are given, page 243 of the current volume of the *N. E. Farmer.* One piece cultivated by Mr. Lowell was sown with tall meadow oat grass, in the proportion of one bushel of oat grass to six pounds of lucerne.

"The first crop was very great; it was difficult to decide in this first crop which excelled, the lucerne or the oat grass. But in every succeeding crop, the lucerne predominated to so great a degree that it seemed to be the only crop. This was owing to the greater breadth of its leaves. I never cut it till it flowered. I made 4 crops last summer of excellent hay from it, amounting in all to six tons and an half per acre—and after that it furnished a rich supply of after feed. This crop was seen and admired by a great number of intelligent farmers.

"Having been convinced that it was suited to my soil, I last year laid down an acre and a quarter for a pasture, being satisfied that it is admirably adapted to that purpose. I laid it down with barley but it grew so fast that I was obliged to cut the barley stalks very short, or else I should not have been able to thresh it, so thick and succulent was the lucerne. I cut over this field once and then depastured it.

"I mention this fact as a remarkable one, because the French writers speak of it as a *very rare* occurrence, even in *their* climate, that it will bear the scythe the first year.

"At the South and in New York the lucerne has done as well as with me, yet many persons have not succeeded with it here. It will not endure wet or black soils. The land in which I have raised it is a warm soil—the surface good, but thin, on a gravelly bottom. It has stood drought better than any other grass. I have always used gypsum, and perhaps owe my success in part to that valuable stimulant. I have employed two bushels to the acre."

(From the New England Farmer.)

LUCERNE.

Having seen lucerne strongly recommended in the New England Farmer and in many other periodicals, I determined to give it as fair a trial as I could. Accordingly I, last spring, prepared about 10 rods of land, on which the year before I had about 80 bushels of corn to the acre, sowed it with oats, and on the first day of May, (I could not get the seed sooner) sowed lucerne and red-top, bushed them in, and rolled the ground down smooth. I put on at the rate of more that 20 lbs. of lucerne seed to the acre. The oats, though sowed and harrowed in before, had not then sprouted. The land was a dry rich loam, made mellow and I think as good for lucerne as any in this vicinity. It came up well and grew well, till the oats began to choke it: they grew very rank and nearly one half lodged. The lucerne then turned yellow, and seemed to dwindle away, and for a while I thought it would all die. After harvesting the oats however, it started and grew some, but did not appear very promising. It is now nearly all dead, and the little that remains is generally in plants scattered here and there, wholly insufficient for a crop of grass. Some small patches, the bigness of a common sized table are thick and grow well, being about ten inches high.

The result of this experiment has satisfied me that lucerne will not answer for *our* soil and climate. No doubt it may be profitably grown in other places. I did not attribute my failure to the rankness of the oats. B.

Plymouth, Conn. April 29, 1831.

PUMPKINS.

We believe this crop is more neglected than it ought to be. Whether this is owing to the old cant phrase of "Brother Jonathan and Pumpkin pie," used by our transatlantic brethren we know not. But this is certain, that a given weight or measure of Pumpkins contains more nutritious matter than the same quantity of turnips, and they are not as difficult to keep. For feeding to milch cows in the fall, we do not know of a better article according to their cost; for feeding to beef cattle they are excellent—and when boiled, and a little Indian meal added to them, for feeding hogs excel most kinds of food.—We hope therefore that instead of running mad about raising Ruta Baga our farmers will look carefully to raising Pumpkins, for without them the emigrants from Connecticut would make but sorrowful work keeping Thanksgiving.—*N. E. Farmer.*

RARE.

We were on Saturday, March 29th, presented with a mess of *new potatoes,* raised the present season by Capt. Benjamin Waterhouse, of Cape Elizabeth. Some of them were about the size of a hen's egg. This is certainly very remarkable, and we believe unprecedented in this climate. By what means it was accomplished we are not informed. The note accompanying them says they were raised "on the piece of land called the square acre."

[*Portland Courier.*

HORTICULTURE.

BOTANICAL GARDENS.

We observe with some envy the notices in the Philadelphia journals of the botanical and nursery gardens in the neighborhood of that city. Herder, says the Encyclopædia, calls gardening the second liberal art, and architecture the first. In this country, it is only the homely part of either that is attended to.—Our houses protect us from the elements, (that is, indifferently well,) and our cabbage-beds supply us food, and we seem to be content. The *utilitarian* philosophy prevails too much in our practice. The pleasures of imagination and taste, though many of them are the cheapest, as well as the most enduring, occupy us too little. Foreigners remark us as a serious and pains-taking nation, little moved to or by the amusements and recreations which are sought after, and form a part of life abroad. The more ancient pastimes are out of vogue, as in other countries, but have not, as in them, been succeeded by such as are more akin to the modern state of society.

Life must have its pleasure as well as its business, and one wonders to see all this toil of accumulation without the apparent aim of enjoying it by and by. The Dutchman, who cannot be thought of an idle race, plants his tulips and hyacinths with care, and contemplates them with enthusiasm. Industry and amusement are not incompatible, unless the latter be of such a sort as to destroy, not refresh the faculties. Now that is the very sort to which those are most likely to be driven who neglect the pure and innocent pursuits of the imagination and taste. Unemployed and uninterested minds seek often a dangerous excitement; nervous horrours and listlessness corrode one sex, and the bottle expels them temporarily in the other.

Taste is a plant of slow growth. Not that it requires great wealth, or even uninterrupted leisure; but it is the fruit of intellectual culture, the discrimination resulting from the habitual exercise of the faculties on the many objects around us. Taste in our occupations and amusements has this advantage, that the pleasure grows, not palls, with repetition, and the gratification involves no sacrifice of innocence in its excess. It is a magic wand which lights up all the world with beauty and curiosity, and is the best talisman against low sensuality and hurtful excitement. To multiply the objects on which it may be exerted, and to lay the foundation of it in such institutions whether of literature or the arts, of physical or moral science, as may healthfully occupy the minds of young and old, is a matter of good policy as well as of sound practical philosophy. A gallery of pictures, a museum, a musical association, a botanical garden, even a finely planted and picturesque promenade, have saved many excitable and craving minds from the pot-house and other haunts of debauchery.—*Baltimore American.*

PLANTING VINES IN YARDS.

Every person who occupies a house, either in the city or country should consider himself under obligations to plant a vine in his yard. Suppose a choice variety of either foreign or native grapes should be planted in every yard in this city, in a few years not a family, however poor, would be without this delicious fruit. The expense would not exceed from 25 to 50 cents. Many would undoubtedly be neglected and die: but many, also would grow and bear fruit abundantly. Let it be not an objection, that the tenant is to occupy but one year.—*N. Y. Farmer.*

PRESERVATION OF FLOWERS.

It is said that a few grains of salt dropped into the water in which flowers are kept, tends greatly to preserve them from fading, and will keep them fresh and in bloom double the period that pure water will.

RURAL ECONOMY.

(From the New England Farmer.)

BEES.

Mr. Fessenden,—In a communication made for your paper a few days past on this *inexhaustible* subject, I regretted not having received an answer from a gentleman in the western country to whom I had written last autumn on the method of keeping bees in the upper part of a house, or any other building. I do not enter into any controversy concerning these valuable insects, or the best shaped hives. My object is to obtain *honey* in the safest and easiest way with little trouble or expense, and also I hope with a greater certainty of keeping clear of the bee moth, from the greater elevation from the earth than the usual method.

I have this week received the letter I had so long been expecting, and now give it to you for publication.

Yours, &c.

Roxbury, April 12, 1831. J. Prince.

Versailles, Woodford Co. Ky. April 20, 1831.

John Prince, Esq.

My Dear Sir,—Your friendly letter of October last was forwarded to me at this place, but did not reach this until my departure for the southern counties; consequently this is the first opportunity I have had, and must plead my excuse for not attending to your request sooner: and now, I have to regret that my friend Doct. Parker has not furnished me with *all* the information I require, concerning the management of bees; but he has kindly afforded me an opportunity of examining his bee-house, and if I possessed the power of description you should certainly have it, intelligibly. This much is certain, that he has in the garret, a great number of bees. He thinks about 40 swarms at this time, all proceeding from one hive, put there about 10 years ago. He placed the hive near the brick wall or end of his garret leaving an aperture, or small hole in the wall, through which the bees passed out and in. A tight room was then made for them, such as may be made in the end of any house, leaving a door, which may be locked or bolted. The room must be tight, admitting neither air or light, or very little of either. A large box was then put into this room, say 8 by 4 feet, one half sawed in two, with small hinges on it, and fastened at the bottom by a bolt or lock, for the convenience of raising up and getting the honey whenever you may want it. The hive being placed on the top of the box, and the latter having 5 or 6 holes bored in it by a small auger—as soon as the bees have filled the hive, they go down into the box, and never swarm until they have completely filled it. But you must have room enough in your house to keep them always at work. And this you may do by adding box to box; *and they will even then proceed to deposit their comb on the rafters of the house.*

Doct. Parker told me the other day, that he could now take from 50 to 100 wt. of honey comb without disturbing, or even seeing a bee.—We have also a bee-house in the yard; three sides planked up, as other framed houses are, we have framed a box the whole length, say 14 feet; this box is 18 inches wide and about 12 deep, with holes bored all along the top, over which the hives are set or placed—the front part of this box is full of holes for the egress and ingress of the bees—they directly go up through the box into the hives, fill them, and then go to work in the large box, so that you may take the hive off as soon as filled and place another there, so that there is no necessity of ever killing a bee.—You can fasten the hives on the box, by running a bar of iron or wood through each end of the house and putting a lock on it, so as to prevent robbery.—The lock is placed in the end of the bar, outside of the house.

We have several other plans, or methods of raising bees in this neighborhood—such as small brick buildings, and putting the hives in them, leaving holes in the wall for them to go out and in at, having a door in the back or front, as you please. We also have the hives placed in the top of the porticos or porches boring small holes in the plank for them to go through. In truth, there can be no difficulty in having plenty of honey, if we devote any time to making a house for the bees.

I am, &c. &c. P. N. O'Barnum.

(From the New England Farmer.)

WINTER BUTTER, SHORT HORN CATTLE, &c.

Mr. Editor,—Much has been said in the N. E. Farmer about *freezing* the milk to obtain cream for butter. My objections to this practice are, the butter so made is inclining to be *white, will not sell well,* and is *crumbly* and *will not cut handsomely.* Besides, I think the flavor hardly equal to that made in the method we have pursued.

Our object has been to keep the milk in a temperature always *above* the freezing point—say, not lower than 40 or 45 degrees.

The method which we have practised, and which I think best for winter, was recommended to me by that great friend to agricultural improvement, Charles Vaughan, Esq. as followed in the counties of Somerset and Devon, England. The milk immediately after it is taken from the cow, is put in a copper or brass vessel, of a size according to the quantity of the milk, care being taken that it is not more than eight or ten inches in depth, and gradually brought to within 2 or 3 degrees of boiling heat, when it is permitted slowly to cool. In the course of five or six hours, the most of the cream rises in a beautiful thick sheet, and is so solid that it may be cut with a knife in almost any form. It comes to butter almost immediately, *never* requiring more than five minutes churning. The butter is of fine quality, being of good color and flavor. The practice also saves labor and *cold fingers.* We have in this way had no butter that was not as high colored as what I send you. But perhaps the high color may be owing considerably to the extra richness of the milk, and this quality of the milk is wholly attributable to the cows. My stock consists of the *Short Horn* breed in the blood of *Cœlebs, Denton,* and *Holderness,* the *Herefordshire* in the blood of Sir Isaac, the *Bakewell,* and that excellent, though undefined breed introduced here from England by Charles Vaughan, Esq. and the best *selected native.*

I am aware that much contrariety of opinion exists as to the properties and relative value of the different breeds of cattle, and my intentions have been, and still are, to go through with a series of *fair experiments* on the subject.

So far as several years' observation and one years' *experience* will enable me to judge, I am inclined to think the improved imported races (the Short horns, particularly,) the most *profitable,*—that is, taking them for all purposes. I do not know that they will give any *more* milk than the "natives," but it is, I believe, generally of a *better quality,* and they certainly keep in *much* better order on the same food. They are also *put together* more on mechanical principles, are *stronger,* and have better *constitutions.* I would recommend to every farmer to give them a fair trial.

Yours with respect, Sanford Howard.

Vaughan Place, Hallowell, April 18, 1831.

(From the Genesee Farmer.)

LAMPAS OF HORSES.

As the season of the year is now approaching when some people commence one of the most cruel and barbarous of practices ever retained by any people, pretending to be civilized, viz: that of burning out the lampas from the mouths of young horses, we cannot refrain from making a few remarks upon that subject.

We are sensible that some of our most enlightened readers will say, that this article should appear under the head of Vulgar Errors; but yet we have what we consider a reasonable excuse for not putting it there.

Most of the articles which have been placed under that head, in our paper, are rather innocent delusions, than partaking of the barbarous; rather superstitious rites and ceremonies, appertaining to property, than any retained usages of the dark ages of barbarity. At what time or with what people this practice originated, we will not pretend to say; but here is one nation who should either discontinue the practice, or else say less on the general diffusion of useful information; that is America.

The idea that the enlargement of that part of the roof of a horse's mouth, is a disease, has long been exploded by all veterinary surgeons. All horses are subject to it, between the ages of three and five, more or less; and in many cases, this soft spongy enlargement, descends to a level with the fore teeth, without marks of tenderness or inflammation indicating disease, and if left to the operation of nature, will disappear, and the horse will have a sound and healthy mouth; not to speak of the danger of bleeding the horse too freely, by opening the palatine artery, the manner of performing the operation, is shocking to the feelings of humanity, as well as painful to the animal. It is uncalled for; and must be considered a piece of wanton cruelty.

(From the New England Farmer.)

SPORTING.

Mr. Fessenden,—Permit me, through the medium of your highly useful journal to call the attention of our farmers and horticulturists to the wanton practice of many young men from Boston and its environs, of shooting the birds in this vicinity.

It is a well known fact that the alarming increase of worms and insects in making ravages upon our fruit trees and fruit, not only paralyzes the efforts and disheartens the hopes of the cultivator, but threatens total destruction to many of the most delicious kinds.—So extensive are their ravages that but very few of our apricots and plums ever ripen without premature decay from the worm generated by the beetles which surround our trees in the twilight of the evening in great numbers when the fruit is quite young. And when the produce of our apple, pear or peach trees is small, but few of these escape the same fate.

I attribute the rapid and alarming *increase* of these worms and insects *wholly* to the diminution of those birds which fall a prey to our sportsmen, which are known to feed upon them and for whose subsistence these insects were apparently created.

In addition to the important usefulness of these birds, their musical notes in the twilight of the morning are peculiarly delightful; awaking the cultivator to the sublime contemplation and enjoyment of all the infinite beauties of creation.

In vain will be all our toil and labor, in vain the united efforts of Horticultural Societies for increasing and perfecting the cultivation of the most delicious varieties of fruits, unless we can *increase,* or at least *cease* to *diminish* these useful and melodious birds.

If we have a Statute in this Commonwealth providing for the protection of these birds, let us unite our efforts to arrest this wanton destruction of them *by enforcing the penalties of the law in every instance of its violation.* Our Horticultural Society can scarcely do a greater service in promoting the objects of its organization, than by making a spontaneous and vigorous effort to this effect.

If there be no Statute for the protection of these invaluable creatures, I would earnestly, yet respectfully suggest to the Horticultural Society the propriety and even necessity of their petitioning our Legislature at their next session for such an act.

It is a common practice with these sportsmen through the summer to range the groves and orchards, in this vicinity, almost every pleasant day and more numerously on holidays, and to shoot *every bird* that comes within their reach.

It is not however a small nor an easy task for one individual, to get their names, residence, and the evidence necessary for their conviction; but it requires the united efforts of all who are immediately interested. Already have these sportsmen commenced their wanton destruction of these useful creatures, even before they had time to build a nest for rearing their young.—Birds that have survived the dreary winter in a more genial clime, having now returned to bless our efforts by their industry and to cheer our days with their melody, are scarcely permitted to commence their vernal song, ere they must fall victims to a WANTON IDLENESS that is as destitute of moral feeling, as of useful employment.

Brookline, April 31. A Cultivator.

THUNDER FATAL TO GOSLINGS.

Mr. Smith:

I will inform you of a particular that may he interesting to one branch of medicine (physiology I believe the doctors call it,) and to natural history. In a late thunder storm the lightning descended in a field, within less than half a mile of my dwelling, and killed two labourers and laid prostrate and injured three more. But the effect in my fowl yard was very remarkable. I had two broods of goslings, one nearly a week old, on the ground, and another, two days, in a basket in a house. At the instant when the thunder fell, which it did with the most astounding force, the woman who had the care of the fowls, happened to be looking upon those in the basket, and saw them, at once, all fall over upon their backs and expire. Those in the yard, half an hour after, were found dead also; a nest of eggs under a goose, then in progress of hatching, were all killed. You may rely on the correctness of this statement. Though goslings are easily raised, and live more than a century, they seem to be endued with nerves of uncommon sensibility, or, to have systems peculiarly favourable to electric impressions. Cousin Tabitha.

MISCELLANEOUS.

ASSAY OF FOREIGN COINS.

Report of the Director of the Mint.

Mint of the United States.
Philadelphia, Jan. 31, 1831.

Sir: Conformably to general instructions from the Treasury Department, assays have been made of the following foreign coins, the result of which is now respectfully submitted:

GOLD COINS.

From the Assayer's report, it appears, that the gold coins of Great Britain and Portugal contains 22 parts of fine gold in 24 parts; those of France, 21 19-32 parts of fine gold in 24 parts; and those of Spain, 20 63-64 parts fine in 24 parts.

The value, per pennyweight, of the gold coins of Great Britain and Portugal, deduced from the above assay, is the same as that of the gold coins of the United States, viz. 88 8-9 cents; that of the gold coins of France, is 87¼ cents; and that of the gold coins of Spain, 84.78 cents per pennyweight.

These results are very nearly conformable to those of our previous assays of the above coins, except in regard to gold coins of Spain, which, in this instance, give a value slightly above the average of those usually obtained. It may be confidently inferred, that no reduction in fineness has been made in either of the coins mentioned.

In addition to the above, assays have been made of the gold coins of Mexico and Colombia, issued in 1829; and of Central America, issued in 1827, being the latest dates procured. The result indicates an adherence on the part of those governments, to the gold standard of Spain; the greatest deviation from that standard, not being greater than Spanish gold coins frequently exhibit. The gold coins of those new states may be estimated at 84 25-100 cents, per pennyweight, which corresponds with the average value thereof, ascertained by the assays of 1826.

SILVER COINS.

Of Spanish milled dollars, no later dates have been procured than those heretofore assayed and reported on, viz. of the year 1824. The fineness thereof may be stated at 10 oz. 15 dwts. 12 grains of fine silver in 12 ounces, conformably to previous reports. The value per ounce corresponding thereto is 116 1-10 cents. Standard silver of the United States contains 10 oz. 14 dwts. 4 5-13 grains of fine silver in 12 ounces, the value corresponding to which, is 115 38-100 cents per ounce.

Specimens of the Mexican and Peruvian dollar of 1830, the Central American of 1829, and that of La Plata of 1827 and 1828, have also been submitted to examination.

The three first mentioned, are found to be of the full Spanish standard; they even incline to a fineness, slightly superior to the ordinary Spanish dollar, but not such as to indicate any authorised appreciation in this respect. Being of recent emission, their weight exceeds that of the dollar of Spain now in circulation. The intrinsic value of these coins may be stated at 116 1-10 cents per ounce. By tale, they may be estimated to average 100 cents 4½ mills.

The specimens of the dollar of La Plata, examined in 1826, were found equal in fineness to the Mexican, though of less value by tale, by reason of their inferiority thereto in weight. On an average, they were not found to be worth more than 100 cents each.

The latest dates then examined were of 1813, and 1815. The specimens of this coin issued in 1827, and 1828, now assayed, presents results materially different from the above, and indicate a very sensible deterioration in the standard thereof. These specimens vary from 10 oz. 1 dwt. 12 grains fine silver, to 10 oz. 7 dwts. 6 grains in 12 ounces. The former is equivalent to 108½ cents per ounce, and the latter to 111 6-10 cents per ounce. The value of the former, according to their ordinary weight, will be, by tale, about 93 6-10 cents, and that of the latter 96¼ cents. Nothing can be usefully affirmed of the average value of coins liable to variations of this extent.

Late deposites of large amounts in Spanish dollars, exhibit a result not observed at the Mint before the latter part of last year. They have heretofore been stated as producing on an average 100 cents 3 mills, conformably to the ascertained value of large quantities received from time to time for coinage. Recent deposites have produced less than one mill above their nominal value. This is to be attributed to the diminished average weight of these coins, arising in part from the cessation of new issues, and probably still more to the fact, that a large proportion of the Spanish dollars, now remaining in the United States may be the residue of parcels from which the most perfect have been selected for the purposes of commerce and the arts.

Very respectfully your obedient servant,
SAMUEL MOORE.

Hon. S. D. Ingham,
Secretary of the Treasury.

DUTCH SALE:

That is, bidding downwards; which is the invariable practice throughout Holland. An article is set up at any price the auctioneer pleases; if nobody bids he lowers the price, and so continues lowering until some person cries "mine," and the person who so claims it is then entitled to it;—a practice congenial to Dutch taciturnity.—*Legal Recreations.*

ERGOT.

Ergot is an elongated, cylindrical excrescence a little curved, and somewhat resembling a horn, which sometimes takes the place of the grain in several cultivated grasses, particularly in rye, which, when in this state, is commonly called *spurred* rye. It has been considered by some authors as a disease, and by others as a fungus, and has been referred by the latter to the genus *sclerotium.* A grain, when attacked, becomes soft and pulpy, afterwards hardens, and elongates gradually; when young, it is red or violaceous, afterwards lead colored, and finally black, with a white interior; generally two or three grains in a spike only are affected: wet weather is favorable to its development. When bread containing this substance has been eaten, it has produced very formidable consequences—sometimes gangrene of the extremities and death. Ergot is an important article in *materia medica;* has been found capable of exerting a very powerful and specific action upon the uterus, and is administered in small doses in certain extreme cases. This remedy has been principally used in the United States. Of late, it has been successfully employed in France.

A French chemist has discovered that potatoes one third boiled, effectually supply the place of soap in washing linen. That their farina is a useful ingredient in starch, has long been known.

Dry sand or fern is recommended as the best preservative for fruit; hay and straw having been found to leave a musty flavor on apples and pears.

THE FARMER.

Baltimore, Friday, May 20, 1831.

Quinoa.—The letter below from Lieutenant Fitzhugh of the United States navy, accompanied the quinoa, the receipt of which we noticed last week, and together with the subjoined directions for cultivating the quinoa from the same gentleman, has been politely furnished for publication in the Farmer by Mr. Skinner, to whom the quinoa was sent from Peru.

We have examined all the publications in which we could hope to get any information on the subject of the quinoa, and have satisfied ourselves on the subject of its botanical character. In Peru it is called *quinua*, pronounced *keen-wa*, with the last syllable very slightly accented. Humboldt speaks of the chenopodium quinoa as being one of the few plants cultivated in the highest and coldest regions of the Andes and Mexican Cordilleras; and says that when the old historians use the expression small Peruvian rice (*arros pequeno*,) they mean the chenopodium quinoa. Don Ulloa also speaks of quinoa being peculiar to the province of Quito, and as deserving of being ranked as one of the most palatable foods. These authorities, supported as they are by the name by which the seed in question is called by the natives and residents of Peru at the present time, sufficiently establish the fact that it is the *chenopodium quinoa* of botanists. There are a great many varieties of Chenopodium, several of which are very common, (mere weeds) and the whole genus is called *goosefoot*, in England—for instance, English mercury upright goosefoot, purple goosefoot, &c. Several of the species are indigenous to the United States, viz. the anthelminticum or worm seed, the spear leafed, the bearded, &c. But the quinoa, the one particularly under notice, is the only one of the genus that is indigenous to Peru. It is annual, grows three feet high, flowers in July, flowers green, propagated by seed, in common earth. The seed are circular, flat, one twelfth of an inch diameter, white, and easily pulverised. It belongs to the 5th class (Pentandria) and 2nd order (Digynia.)

The quinoa is cooked and used like common rice, and hence the name sometimes given it of *Peruvian rice.* Capt. Dungan, in whose vessel the seed were sent, politely presented the Editor with some of the prepared seed for his table. It seems that the quinoa is scalded or part-boiled, before it is disposed of by the cultivator, whether for the purpose of its better preservation or to prevent its cultivation in other countries we know not; and to this fact is probably to be attributed the failure of all previous attempts to cultivate it. Having eaten of the quinoa, prepared in several ways, we are of course enabled to speak of its qualities from experience. Gentlemen who have eaten it in Peru speak of it in the highest terms of praise. We are not willing to go so far, though it may improve with us upon further acquaintance. It is certainly of a very pleasant flavour, but that is peculiar—unlike that of common rice, and resembling that of oatmeal. Its appearance when served up is singular. The grain is principally composed of a germ, or sprout of the young plant, closely coiled, and surrounded with farina. In boiling, this spiral germ is detached, and the dish presents the appearance of being full of skippers, something similar to a dish of boiled beans. Our present impression is, that though it may attain an equal place with rice, it never can supersede that excellent vegetable on our tables.

The Editor of the Farmer has planted a quart of the seed of the quinoa, and taken such measures and resorted to such means to ensure its growth as he supposes will be successful, so far as soil and cultivation are concerned. He is not however, very sanguine in his expectations. The climate of Peru is very different from ours, the former being very temperate and subject to no change of the seasons; therefore, we have our extremely hot and dry weather, and the comparative shortness of our seasons, as obstacles to success in the culture of the quinoa. And yet it is very possible that it will withstand all this, and if so it will be an important agricultural acquisition. It will be observed, that the subjoined directions say it is to be sown at the same season and gathered at the same time as wheat. It should however be recollected that there is no *winter* in Peru, and of course no fall sowing of wheat to withstand its rigours. If it succeeds with us at all it must be sown in the spring and gathered in the fall, for it is not believed that it can bear our winters like wheat.

U. S. S. St. Louis, Callao Roads,
J. S. Skinner, Esq. *Jan.* 31, 1831.

Dear Sir,—I have at length the pleasure of sending you by the James Beacham, two bottles of Quinar, which after much inquiry and research, on the part of my friend Mr. McCall, of Lima, has come forth, it was obtained two hundred miles from this. Inclosed you will receive a description of its cultivation, curing, and preparation for culinary purposes.

Truly yours, And. Fitzhugh.

Description of the Manner of Sowing in Peru the Grain known under the name of "Quinua."

It should be sown in soil and climate not of too cold a temperature for wheat, neither should it be what would be called warm. It is sown at the same season and gathered at the same time as wheat. The ground is prepared in furrows, twice ploughed with Peruvian ploughs, (which are nothing more than wooden knees pointed at the end,) and the seed is sown, scattered as wheat. When ripe, (to save waste, as the grain shells off very easily) it is cut carefully and gathered in on folds of cotton or linen cloth, of a texture not sufficiently coarse to allow the grain to pass through. The grain is separated from the stalk by merely rubbing it between two folds of cotton or linen cloth, and the chaff is afterwards winnowed from it.

Gentlemen of the Navy, and Captains and Supercargoes of Vessels, bound on foreign voyages are solicited to aid the Editor of the American Farmer, in procuring new vegetables, by collecting seeds, roots or plants, of such new and useful kinds as they may meet with in foreign countries. A little attention to these things on the part of such gentlemen, may be the means of rendering important services to their country. There is scarcely a port in South America, and many other parts of the world, where there are not vegetables, fruits, and grain, unknown in the U. States, and which would be valuable here. We would recommend that when any vegetable, fruit, grain, grass, or other useful, or ornamental plants shall be met with, which they have not seen in the United States, that they ascertain its character, mode of cultivation, and use. If it be a culinary vegetable and in much use among the people, or ornamental plant of much esteem. and propagated by seed, a few fresh seed should be obtained, mixed with dry sand and put in a bottle well corked up; if propagated by roots, they may be packed in dry sand in a tight box. Seeds and roots may be transported by such means from any part of the world. The common, and when convenient, the botanical name, should accompany the description. In the selection of seed, especially small seed, the preference should be given to that which has not been taken from the capsule or husk, as the germ is often destroyed by the operation of cleaning it; and such roots should be taken as are planted by the natives, for it is often the case that edible roots are either not proper for planting or incapable of preservation on a long voyage. If valuable plants are found, seed of which cannot be obtained, a few may be placed in a flower pot, or box, and thus brought home with little trouble; if they are taken in the dormant state they will come very safely. Gentlemen of the navy can send any article they may thus obtain, by merchant vessels. By the polite attention of several gentlemen, the Editor has already in a course of propagation several valuable vegetables, which bid fair to add materially to the luxury of our tables, and wishes to extend the collection as far as may be practicable. . All such articles may be directed to Gideon B. Smith, Editor of the American Farmer, Baltimore, Maryland, who will cheerfully defray all expenses attending their collection and forwarding.

☞ Editors of papers in the seaports are particularly requested to forward our designs by giving the above an insertion in their journals.

Silk Worms—Chloride of Lime. The season for raising silk worms having arrived, it is suggested that persons engaged in it provide themselves with the chloride of lime as a preventive of disease among the worms. The Editor of the American Farmer has no hesitation in saying, that, when properly and timely applied and attention to cleanliness is observed, it affords perfect security against the only disease to which silk worms are extensively liable in this country, to wit, the *Tripes*. From the time he first made the discovery, two years ago, he has never known an instance of its failure as a preventive; and he has known it to arrest the disease after it had become epidemic, and when the destruction of the whole establishment seemed inevitable. The discovery of such a remedy has been considered an object of the highest importance in the silk countries of Europe, and occupied the anxious attention of their scientific men for ages;* and it has been reserved for America in the very infancy of her silk culture, to make it. The chloride of lime is a very cheap article,—a dollar's worth being sufficient for a pretty large establishment—and it is easily applied. An ounce or two of the powder may be put in a plate, with a little water several of which may be set about the room, and replenished every four or five days; or, it may be put into a jug or demijohn, and a gallon of water added for every pound, and a little of the solution sprinkled over the floor two or three times a day, whenever there is an offensive smell in the room. In hot weather, when it would be unsafe to cool the room by sprinkling water on the floor, (in consequence of the vapour evolved) it will be of the greatest advantage to have this solution of chloride of lime, as that may be used not only with impunity but very beneficially, both for cooling the room and sweetening the air, as well as for the prevention of disease. The time will come when chloride of lime will be considered an essential matérial in every silk laboratory.

The Wheat Crop.—We have rather gloomy accounts of the growing wheat crop, from all quarters. The following are the different items that have reached us on the subject:—

Mr. Smith: *St. Augustine, Cecil Co. Md. May* 11.

Our crops of wheat have improved and look better than was expected in the early part of the spring, but for the last few days past, the fly has done a good deal of mischief, and still at work. We may have two thirds of a common crop.

Very respectfully, yours, &c. N.

Cheston, Queen Anne's Co. Md. May 11.

Extract.—The fly is making sad havoc with the wheat crop, which from the severity of the weather, looked worse than I ever saw it; and from all I hear, the crop must be short indeed. Mr. Paca has already ploughed up some of his best lots and put them in corn, and I think he might, as well as others of us, do so with more. My fields present the worst prospect I ever had since I was a farmer. W. H. De Courcy.

The Richmond Compiler, of May 13, says, We continue to receive very different accounts of the Wheat Crop.—In the quarters from which we have heard during the two last days, the prospects are unfavorable. One farmer, from Goochland, does not believe that more than two thirds of an average crop will be made. About 140 acres of James River low grounds are so much eat by the fly, that the wheat is scarcely thought to be worth the reaping. We have heard of a few fields which have been ploughed in.

(From the Cambridge (Md.) Chronicle:)

"Judging from present appearances, the next crops of wheat and corn, in Dorchester, will be very meagre and fall far short of average ones. Of wheat, some did not vegetate, in consequence of the wet state of the ground when sown, and much was destroyed by the very cold and wet weather of the winter and spring, and in some quarters grass now stands in its stead and might be mistaken for it; besides a large portion of that which vegetated and withstood the vicissitudes of the winter and spring, has been or will be scathed and killed by the fly; and we have heard intelligent farmers declare that they believe the crop, in the country, will not be more than half an average one. Owing to the frequent rains and the quantity of water on their land, our farmers commenced planting corn late this spring, and the copious showers and cold, chilling weather of last week, materially interrupted the progress of many, and caused serious fears to be entertained for the grain which had recently been deposited in the earth."

(From a North Carolina paper.)

"*The Wheat Fly.*—Our farmers are complaining very much of the ravages this destructive insect is making in the growing crop of wheat. Many large fields of wheat from present appearances will be entirely destroyed. The long, dry and cold weather has likely favored the operation of the fly, and checked and retarded the growth of the wheat."

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*The discovery was considered so important in France that it was made the subject of an elaborate paper read before a scientific society in Paris, though its American origin was forgotten.

Prices Current in New York, May 14.

Beeswax, yellow 22 a 23. *Cotton*, New Orleans .10 a .12; Upland, .8½ a .10½; Alabama, .9 a 12. *Cotton Bagging*, Hemp, yd. 18 a 20; Flax 12½ a 16; *Flax*, American, 7 a 8.-----*Flaxseed*. 7 bush. clean .--- a .—— *Flour*, N. York, bbl. 5.87 a 6.00; Canal, 6.12 a 6.50; Balt. Hwd. st. 6.12 a 6.25; Rh'd. city mills -—— a —— country, 5.87 a 6.00; Alexand'a, 5.87 a 6.00; Fredericksburg 5.75 a 5.87; Petersg 5.87 a — --; Rye Flour, 3.75 a 3.87; Indian Meal, per bbl. — a 3 75; per hhd. 17.75 a 18.00 *Grain*, Wheat, North, 1.25 a 1.28; Vir. 1.18 a 1.25; Rye, North, 78 a 80; Corn, Yel. Nor. 74 a 75; Barley, — a —; Oats, South and North, .37 a .38; Peas, white, dry, 7 bu. 5. Beans, 7 bu. 7.00 a 8.00. *Provisions*, Beef, mess 8.50 a 9.25; prime 5.50 a 6.25; cargo 4.62½ a 5.00; Lard, 7½. a .9; Pork, mess bbl. 14.00 a 15.00; prime 10.50 a 11.25.

CASH FOR WOOL.

The subscriber is in this market as a purchaser of wool for eastern manufacturers, and will pay cash and fair market prices for every description of American wool. RICH'D MESSITER,
No. 5 Light street wharf, up stairs.
May 20. 2 m.

AGRICULTURAL BOOKS,

For sale at this Office.

ENCYCLOPÆDIA OF PLANTS; comprising the Description, Specific Character, Culture, History, Application in the Arts, and every other desirable particular respecting all the Plants indigenous, cultivated in, or introduced to Britain: combining all the advantages of a Linnæan and Jussieuean Species Plantarum, an Historia Plantarum, a Grammar of Botany, and a Dictionary of Botany and Vegetable Culture. The whole in English; with the Synonymes of the Commoner Plants in the different European and other languages; the Scientific names accentuated, their etymologies explained; the Classes, Orders, and Botanical terms illustrated by engravings; and with Figures of nearly ten thousand Species, exemplifying several individuals belonging to every genus included in the work. Edited by J. C. Loudon, F. L. S. H. S. &c The specific characters by an eminent Botanist; the drawings by J. D. C. Sowerby, F. L. S.; and the engravings by R. Branston. London, 1829.—Price $25.

ENCYCLOPÆDIA OF AGRICULTURE; comprising the Theory and Practice of the Valuation, Transfer, Laying Out, Improvement, and Management of Landed Property; and the Cultivation and Economy of the Animal and Vegetable Productions of Agriculture, including all the latest improvements; a general history of Agriculture in all Countries; and a Statistical view of its present state, with suggestions for its future progress in the British Isles. By J. C. Loudon, F. L. G. Z. & H. S. &c. Author of the Encyclopædia of Gardening, and conductor of the Gardener's Magazine, and of the Magazine of Natural History. Second edition. Illustrated with upwards of eleven hundred engravings on wood by Branston. London, 1831.—Price $14.

ENCYCLOPÆDIA OF GARDENING; comprising the Theory and Practice of Horticulture, Floriculture, Arboriculture, and Landscape-gardening, including all the latest improvements; a general history of Gardening in all Countries; and a Statistical view of its present state, with suggestions for its future progress, in the British Isles. By J. C. Loudon, F. L. S. H. S. &c. Illustrated with many hundred engravings on wood by Branston. Fifth edition. London, 1827.—Price $12.

HAY AND MANURE FORKS.

IN STORE, Hay and Manure FORKS, at wholesale and retail, manufactured by Samuel Boyd & Co. Also, a general assortment of Implements of Husbandry, on hand as usual. J. S. EASTMAN,
No. 36 west Pratt-street.

N. B. Wanted immediately, 20 cords of prime white Oak Butts for Plough Timber, six feet long, from 10 to 16 inches diameter at the small end, for which I will pay ten dollars per cord. J. S. E.

GARDEN SEEDS of every description, warranted genuine, constantly for sale by Gideon B. Smith, office of the American Farmer.

SINCLAIR & MOORE,

Pratt Street Wharf,

OFFER for sale a full supply of their new improved PLOUGHS, of different sizes, both wrought and cast shares—also many other approved kinds, constituting an assortment, from which agriculturists can be supplied with those adapted to all kinds of land. Hill side Ploughs; double mould Ploughs; Double and Single Shovel Ploughs; corn and tobacco Cultivators, with wrought and cast Tires; grain and grass SCYTHES; Scythe Sneads; and are now preparing a large stock of GRAIN CRADLES, on which will be hung the best quality Scythes, and be in readiness to supply the demand at an early period.

Also now on hand, a large stock of their improved WHEAT FANS, which will be constantly kept up.

Just received an additional supply of fr sh GARDEN SEEDS and Garden TOOLS, Hay and Manure FORKS.

N. B. MILLET SEED WANTED.

April 22.

SALE OF SAXON SHEEP.

On *Tuesday* the 31st day of May, at 10 o'clock, A. M. at *Brighton*, near Boston, will be sold at auction, by order of assignee, the entire flock of ELECTORAL SAXON SHEEP, imported by George & Thomas Searle in 1826, with one half the increase of the flock since, consisting in all, of about 200 BUCKS and EWES. This flock has been the last four years under the care of Samuel Grant, Esq. at Walpole, N. H. and is well known to all the growers of fine wool in that part of the country, rendering any description unnecessary.

Gentlemen interested in the improvement of the growth of fine wool, in distant parts of the country may be assured that, as a flock, these sheep are decidedly superior to any other ever imported into the U. States, and that the wool has not depreciated in quality, as an evidence of which the clip of last year sold, before any material rise had taken place in the market, at $1.33 per lb. for cash.

They may also rely that the sale will positively take place as advertised. COOLIDGE & HASKELL,
April 22. *Auctioneers.*

THE HIGH BRED IMPORTED IMPROVED DURHAM SHORT-HORNED BULL

BOLIVAR

Will be at Franklin, on the Franklin Turnpike road, about four miles from Baltimore—during the months of January, February, March and April next.

At Epsom farm, near Towsontown, seven and a half miles from Baltimore, on the York Turnpike road, during the months of May, June, July, and August next; and at Franklin, in September, October, November and December.

Terms.—Five dollars, to be sent with each cow.

This Bull was selected by Mr. Coates, the keeper of the Herd Book, without limitation of cost, and was highly valued by Colonel Powel, who considered him in form, points, and pedigree, equal to any animal to be had in Great Britain.

Bolivar is red and white, was bred by J. Whitaker, Esq. England. The singular neatness of his shoulders, the straightness of his back, the width of his loin, the smallness of his head, neck, and offal, the quickness of his gait, together with the well known character of his family as dairy stock, render him one of the most desirable males for improving our neat cattle that can in any country be found.

The committee on Neat Cattle at the exhibition of the Pennsylvania Agricultural Society, reported as their opinion, that Bolivar was "*the handsomest and best Bull that has ever been exhibited at any of our shows.*"

WOOL WAREHOUSE.

LYMAN REED,

Commission Merchant, No. 195 *Baltimore street,*

Devotes particular attention to the sale of WOOL. Any consignments of the article forwarded to him for sale, can be disposed of immediately for CASH, at the highest market price.

CASH, and a fair price, will be paid for a few thousand pounds of *good wool*, (if offered immediately,) to supply orders now on hand.

Refer to Messrs. Cobb, Wyman & Co. Baltimore.

BALTIMORE PRICES CURRENT.

Baltimore Market.--Late intelligence from Europe has depressed the flour market somewhat. The wagon price of Howard street yesterday was $5.37½, it having been reduced from $5.50, on Wednesday, by the foreign news. There have been no sales that we can hear of from stores since the receipt of the news, and our quotations must be considered nominal, as some dealers decline selling or naming a price, while others find it difficult to effect sales at our nominal rates. Grain of all kinds remains about the same as last week. The price of wool it will be perceived continues at its advanced rate; the present price of this article is encouraging to farmers.

Tobacco.---Seconds, as in quality, 3.00 a 5.00; do. ground leaf, 5.00 a 9.00.--Crop, common, 3.50 a 4.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 10 00; yellow and red, 8.00 a 14.00; yellow, 14.00 a 16.00.—Fine yellow, 16.00 a 20.00.--Virginia, 4.00. a 5.00.—Rappahannock, 3.00 a 4.00——Kentucky, 3.50 a 8.00. The inspections of the week comprise 257 hhds. Md.; 26 hhds. Ohio; and 27 hhds. Virginia;—total 310 hhds.

Flour—best white wheat family, $6 50 *a* 7.00—super. Howd-st. 5.50 *a* –; city mills, on time 5.50 a —; Susq. 5.37½ *a* —-; Corn Meal, bbl. 2.25; Grain, Md. red wheat, 90 *a* 1.20; white do. 1.20 *a* 1.30, Susq. 1.16 *a* 1.18-Corn, white, 68 *a* —-yellow 68 *a* —-Rye, 65 *a* 70. Oats, .33 *a* 34. Beans, 75 *a* 80--Peas, 65 *a* 70—Cloverseed —— *a* ——Timothy, 2.00 *a* 2.50—Orchard Grass —— *a* ——-Tall Meadow Oat Grass 2.75--Herd's, 50 *a* 75---Lucerne 30 *a* 37½ lb —Barley, 62½—-Flaxseed 1.25 *a* ——Cotton, Va. 9 *a* 9½——Louisiana 11 *a* 12 —Alab. 9½ *a* . 11—-Tenn.. 9 *a* . 10——N. Car.. 9 *a* . 9½—— Upland 9 *a* 10½—Whiskey, hhds 1st p. — *a* 30--; in bbls 31½ *a* 32—Wool, common. unwashed. lb. 25 *a* .35—— washed, .40 *a* .45-crossed, .30 *a* .37--three-quarter, .44 *a* .48--full do. .48 *a* .58, accord'g to qual.-Hemp Russia, ton, $255 *a* 260---; Country, dew-rotted, 7. *a* 7½c. lb.-- water-rotted, 7½ *a* 8c.-Feathers, — *a* 33-Plaster Paris, per ton, 3.75 *a* 4.00, ground, 1.37½ *a* —-bbl.——Iron, gray pig for foundries per ton 33.00 *a* ——; high pig, for forges, per ton, 28.00 *a* 30.00; bar, Sus., per ton, 80.00 a 85.00.—Prime Beef on the hoof, 6.25 *a* 6.50—Oak wood, 3.00 *a* 3.25--Hickory, 4.50 *a* 4.75—Pine 2.00 *a* 2.50.

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EDITED BY GIDEON B. SMITH.

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TERMS.

1. Price five dollars per annum, due at the middle of each year of subscription.
2. Subscriptions are in all cases charged *by the year*, and never for a shorter term.
3. When once sent to a subscriber, the paper will not be discontinued without his special order; and then not till the end of the year of his subscription that shall be current at the time of receiving such order.
4. The risk of mail in the transportation of both the paper, and of bank notes sent in payment for it, is assumed by the publishers.
5. Advertisements connected with any of the subjects of the American Farmer, inserted *once*, (seldom more) at one dollar per square.
6. All letters concerning this paper must be directed *to* the publishers. They must be free of postage, except communications intended for publication, and letters containing money.

☞ All Postmasters are requested to act as agents for the Farmer; they are authorised to retain $1 for each new subscriber, and 10 per cent. on *all other* collections.

Printed by John D. Toy, corner of St. Paul and Market streets.

AGRICULTURE.

FREDERICK SHEEP—STOCK FARM.

[From the following correspondence which has been politely furnished for publication in the Farmer, it will be seen with high gratification, that Wm. H. Freeman, Esq. of our city, has commenced the establishment of a stock farm, on a large and liberal scale, in the vicinity of Baltimore. We have had the gratification of seeing the Frederick sheep, the subject of the correspondence, and can testify to their superiority. Indeed, although we have been familiar with the character of these sheep for a length of time, we did not expect to find them in all respects so superior. Mr. Meade has done a great thing for his country in the production of these sheep.]

R. K. Meade, Esq. *Baltimore, April* 25, 1831.

My Dear Sir,—Your highly esteemed favour of the 28th March, inclosing some beautiful samples of wool from the "Frederick sheep," came duly to hand, and for this very pleasing, and acceptable kindness on your part, you will do me the favour to accept my best thanks. The course you propose to take, in relation to the sheep, is entirely satisfactory to me. All that I request is, that when about to be put upon their passage for Baltimore, I may be informed in season, that I may send a careful person to Alexandria to accompany them on board the steamboat.

I cannot but consider the introduction of these sheep into Maryland, as an event of great and lasting importance to our agricultural interest, and in connecting my name with it, in any manner you may deem proper, you will do me great honor. Such observations, therefore, as you may please to spread before the readers of the American Farmer, cannot but be acceptable to me.

It is now about five years since I determined to establish near the city of Baltimore a "stock farm," upon the most liberal principles, as a central point in the Union, whence the agriculturists of the United States could be supplied *with every domestic animal* of the purest blood, and of the best established character. For this purpose, I have already expended a considerable capital in procuring from many parts of the Union, and from Europe, such animals as are distinguished for their superior qualities. And being now engaged in dividing and subdividing my estate, so as to keep each race distinct and separate, and removed from even the possibility of an intermixture of blood, I hope to be able to present to the American people a race of domestic animals worthy of them, and of the nation. This establishment is yet in its infancy, but is daily receiving such accessions as will, ere long, make it worthy of notice—among which the "Frederick sheep," cannot but hold a distinguished rank. The stock thus raised, will be disposed of *only* at public sales in the middle of June in each year—the first sale of which will take place in June 1833, and annually thereafter; at which sales printed catalogues, in pamphlet form, will be furnished to each purchaser, in which, not only the exact pedigree of each animal will be given, but its precise character in other respects, affording information on those points upon which the utmost reliance can be placed. I am, dear sir, your obd't serv't.

W. H. Freeman.

Lucky Hit Farm, near the White Post, }
Frederick Co. Va. May 10, 1831. }

Dear Sir,—Previous to the receipt of your letter of the 25th April, I had prepared a few remarks which presently follow, to accompany your little sheep expedition, with the hope they would be acceptable to you, and not uninteresting to all who take a pleasure in agriculture. I assure you it is highly gratifying to me to be confirmed in the impression that you were about to establish a stock farm, a measure so exceedingly important to all those who are desirous to improve their breeds of domestic animals—if you do not succeed I am sure it will be your own fault, since you will be sustained by two powerful motives, self-interest, and a reasonable certainty of accomplishing very extensive good. Some one should take the place of Mr. Powel as a breeder and importer, you are still more favourably situated than he was, may you not be less successful. I am happy to have it in my power to contribute in the least to your undertaking; I trust the Frederick sheep will flourish on your soil; we are engaged in the same occupation, and will help each other—but you have greatly the advantage, the facility of transportation by steamboats, while I am from 30 to 60 miles from navigation, anticipating the convenience of the turnpike, and speed of the railway—and while our engineers and mechanics are engaged in preparing canals and roads, our manufacturers in storing well their shelves, let us be diligent in raising the finest animals to meet the increasing demand and co-operate with credit in the skilful and industrious bustle of the land we happily live in. Your very kind letter (which I now return you, with a request you will permit it to precede this in the American Farmer,) was far too flattering as regards the Frederick sheep, I should indeed rejoice at even a portion of the good effect you anticipate. From experience let me assure you, the subject cannot be agitated too soon to afford you an opportunity of active operations, since I have found from six months to two years in many instances necessary, as introductory through a correspondence to the effectual sale of my stock—but you propose a less troublesome way.

I rejoice that you have entered with so much zeal and liberality on so interesting a work, and I flatter myself that ere long, when our railway from Winchester to Baltimore shall be completed, that in one day I shall have the pleasure of overhauling your stock, taking a social dinner, and supping with my family at night.

The Frederick sheep which you say you have so long and anxiously sought for, are at last delivered into the hands of Mr. Thomas Nelson, my neighbour, who appears as solicitous as either of us, they should arrive safely in Baltimore. I trust your messenger will be in waiting for his wagon in Alexandria to handle the sheep carefully before the wagon is unladen of its flour. In addition to the ewes and ram you have purchased, accompanied with expressions of perfect satisfaction at their price, (however liberal) I take the liberty of sending to your care a ram to be presented to my old friend D. M. better known in the noble deed of emancipating all his negroes, and paying their passage to Liberia. When we dispense with the labour of slaves, those who have not been accustomed to labour themselves must employ substitutes—and I apprehend that few amongst the many will be found to be so efficacious as the raising of fine sheep—the general improvement of our domestic animals connected with the rest which will be permitted our soil in the diminution of slave labour, may prove a valuable receipt for the restoration of worn out lands. For my part, I would not give a pair of first rate sheep for a score of such unfortunate beings; although, I have never yet had the magnanimity to release my own from bondage, and send them home. My individual hopes and calculations are founded in the belief, that the more valuable our stock becomes, the less need there will be for excessive and expensive grain cultivation, so intimately connected with our negro population, and too general a deterioration of the soil. Farms for the improvement of stock are becoming daily more important—if every district of country so limited as to make the supply reasonable as to price and distance would resolve on the support of such an establishment, an agreeable and useful occupation would well profit some individual to the general benefit of the community, *and they would look to some more original source for superiority of blood.*

The demand for the Frederick sheep is far greater than can be supplied with such animals as are permitted to go abroad, your order being scarcely more than half filled, and for the future it will be expedient to permit a pair only to travel to the same location. As these sheep are intended for your June exhibition, I feel compelled to make a few remarks in relation to them, and wish you distinctly to understand, that as this is their first fleece, and they are yet to be considered lambs, they are only conspicuous (if at all so) for the quantity of good long wool they will shear to their live weight, that is, to the pound of flesh, as the carcase cannot grow rapidly until unburthened of its load; when they are brought to their second shearing, you may anticipate a size and weight proportioned to their age and management, with a fleece varying in its weight and value according to circumstances, though seldom equal to the first fleece which carries most dirt and offal wool. The maturity of the third shearing brings into combination the ultimate form, size, and quantity of wool, and tests the value of the animal; sheep raised principally for mutton may be brought to maturity much sooner at least, to a sufficient degree of perfection, for reasons we will not touch on, involving as it would a considerable dissertation. These sheep have been taken from a fold of 170 in three divisions, all kept uniformly alike; had a few been selected and pampered with high keep, their carcases would have greatly exceeded their present size, and although they would also have shorn more wool, it would not have been in as great proportion to the flesh as will be the case under an ordinary keep. Wheat straw for nearly two months during the snows of the winter was their only food, save the little trough feed daily administered by my own hands, for a small portion regularly given is of more effect than double the quantity irregularly bestowed; a mixture of wheat bran and small hominy, two-thirds of the former, one-third of the latter, to an amount not exceeding 25 cents per head was their winter stint, with their allowance graduated down to nothing as the grass grew abundant—25 or 30 young lambs received a check they will never entirely recover of, for if a young domestic animal is not kept in a uniform state of improvement (not necessarily very high or costly,) especially when exposed in the extremes of cold or heat, they will seldom recover their perfect form again, and be assured, sir, that whoever attempts a forcing system with regard to the improvement of any kind of stock, will inevitably fail in producing a fair result in the most valuable and useful animals, that is to say, if excessive and expensive keep is adopted for a select number, in the place of a general and uniform attention to the whole, and the application of reasonable and sufficient means to develope their inherent qualities, to be increased and improved by crosses and selection—an over care is a deception which may be practiced to keep up the character of full-blooded stock after they have arrived at a period when crossing has become necessary—and the ordinary care of our stock degenerating and destructive to every desirable quality and improvement so easily attained by a medium attention and expense. These observations are more especially applicable to farmers; breeders, who are raising on a considerable scale for their own use, than such as are propagating for the supply of others, where it is probable nine-tenths of the breeding would be in the way of crosses, therefore a good apology is to be found in this circumstance for a more expensive attention to the uniform condition of animals. However egotistic, permit me to say, that I have been enabled to select and breed from rams far superior than I could have obtained on any other plan, by keeping a considerable number, and suffering them to contend for superiority, always in good thrift and condition, but never so much pampered as to cover their defects. I must conclude by assuring you that you will receive four of the most improved sheep I have ever permitted to leave my flock, and nearer my very best, which as long as I remain a farmer, with more professional pride than avarice, will not be exchanged for silver or gold—though I trust they will continue to yield a gradually improving supply for my agricultural friends throughout the Union, and assist in sustaining the great *American System*, which is to be greatly upheld by the wool of the north and east, and the cotton of the south and west, the warp and the woof, prominent materials to afford comfort, strength, and permanence to our Union.

I am, very respectfully, and sincerely, yours,

R. K. Meade.

De Rustica, No. IV.

INDIAN CORN.

There is singular beauty and propriety in the device of the arms of North Carolina, which represents Ceres, extending to our sons, a rich swelling ear of royal Tuscarora. Would that we had been more faithful to our emblem! Indian corn is in my opinion, as it was in that of a much better judge, really and truly, the "king of vegetables." It is the most useful, and in the long run, I believe, has been found, the most profitable crop ever cultivated. There is no want of any good thing where proper attention is paid to its culture in this country: it at once gives competency, and slowly but certainly assures wealth. Arthur Young remarks the same of its superiority in France and Spain, and noticed the plenty and happiness it diffused wherever cultivated, when he visited those countries in the year *eighty-seven*. It is adapted to more soils, seasons and climates, produces more food for man and beast, makes a greater return to the soil, and is a better preparation for the succeeding crop than any other article that is cultivated. But it has been our great misfortune, that cotton to a ruinous extent, has crowded corn out of its proper place and estimation, and usurped a baneful erring supremacy over the business and practices of our farmers, whose erring cupidity and present wants have blinded them to their true and permanent interests.

I wish it not to be understood, that because I prefer Indian corn I would cultivate nothing else; but I would inculcate the idea that the whole routine of cropping should be pursued with a fixed and steady eye to the promotion of this. A rotation is necessary. The earth tires by the exertion to promote any one particular growth, as the muscles of the body do by any one continued mode of exertion. A man cannot stand always upon one leg, nor can the earth produce always one kind of crop. We see what nature is disposed to do if left to herself. A field, that when in the forest state produced oaks, will, when exhausted by cropping and *turned out*, yield gums, persimmons, or pines. Perhaps I should express myself more properly if I should say, that the earth contains a particular power for each particular production. One year it yields nourishment for corn, the next for wheat, or something else; and in due course of time the corn power is rennovated and may be brought into play again.

I will suppose you to have bedded up your land (as prescribed in my former papers,) in the fall or in the winter, or as early as you found practicable. The earlier done the better, for if after ploughing it has the benefit of a fortnight's freeze it pulverizes the earth more than two ploughings. "He who will not plough in winter by reason of the cold," says Solomon, "shall beg in time of harvest and get nothing." The wise king of Israel was probably a good farmer, as well as a good builder, though we hear less of it. Well, you have bedded up your land; now plant as soon in the spring as you can, for though early planted corn grows slowly, may be pinched, gets the yellows, yet it is the most productive after all. Later corn grows off better, makes a more showy appearance in the field, but it wants stamina, and the ears are comparatively few, small and light. Early corn therefore, if not too early to stand well, is the best, all things considered. Unusual seasons may now and then make a difference in favour of late corn, for if that which is planted early rots in the ground, or is killed, replanting to supply what is missing makes an unequal growth that never produces well.

If you are a lazy farmer, or what is about the same thing in effect, if your cotton crop is too large and the weeds and grass in consequence get the start of your work, you begin an uphill course that will likely keep you in a hard scuffle, and that not a gainful one, for the rest of the season. You will be rolling the stone of Sisiphus. Instead of driving your business, your business will drive you. Repair for planting then with all convenient haste. If grass and weeds have begun to show themselves, kill and bury them as well as you can, not by deep ploughing to disturb the bottoms of your beds and awaken and rouse up the enemies interred there, as well as exhume the precious deposites you have made; but with a few shallow, light furrows. Next open your drills with a deep stroke of a trowel hoe, or double mould board plough. Strike deep and plant low. Corn roots run horizontally, and if you plant near the top of the ridge, your crop will starve and perish for lack of food and moisture. Mind this, and cheap precept will give you that which I paid for in dear experience. When the great Virginia farmer first recommended the drill system, in my lame endeavours to pursue it, I planted too high on the ridge, lost my crop, and then quarelled with Taylor for my own errors, as I suspect many others have done.

A double mould board plough is better than a single one, because it runs more truly, (a direct line being a matter of some consequence,) and because it opens a wider furrow and places the grass and weeds, which may have a threatening aspect, at a more agreeable distance. Go down to, or nearly down to your deposite, but not below it. One horse has not strength to open the furrow deep enough, nor the steadiness of movement necessary to give it a uniform direction. You must have two horses, and if these work with the common double tree, they will, by contending alternately for the ridge and furrow, give a more zig zag row than you will find it either pleasant or profitable to work after. The double tree must therefore be five feet long, (equal to the width of the beds) to enable each horse to walk in a water furrow.

Drop your corn thick enough, making a liberal contribution for moles, partridges, blackbirds, and grub worms, as well as an allowance for rot. I may probably at a future time provide a partial defence against some of these foes. It is better to be obliged to thin corn than to replant. A stalk from replanted seed may, as I have said, shew well, but it is often barren. If it does not silk early enough to receive the falling pollen of the rest of the field it will be very partially impregnated, or not at all, from its own floating and scanty farina. [I suppose I need not say that the tassel is the male, and the silk, the female part.] Transplanting is better than replanting. For this purpose a part of a row, now and then, in a fertile place should be more thickly sown to furnish sets, and these may be transplanted at any time, but best when the ground is moist and the sky overclouded, observing to crop, by a smooth cut, a good portion of the blades. If from any cause there is a deficiency of one third of the necessary plants in a field, neither replant or transplant, but plough up at once and seed over again. By this means you save labour and avoid both an unequal and a grassy crop.

(From the New England Farmer.)

THE DAIRY.

Mr. Fessenden,—On a former occasion I gave you some account of the dairy of Mr. Jesse Curtis in Marblehead. (N. E. Farmer, vol. viii. page 73.) That was for the year 1828; having now in my possession the accounts for 1829, and 1830, I have the pleasure to forward them to you, believing you will regard them in this branch of husbandry as examples of excellent management, highly creditable to the proprietor and to his stock.

In 1828, between the 14th of March and the last of November, eight cows produced 1272 lbs. of butter.

This is equal to 159 lbs. to a cow.

In 1829, from 27th March to 28th Sept. (6 months) seven cows produced 916 lbs. 1 oz.

The account for the remainder of this season is unfortunately not in my possession; it was however proportionate to the preceding months.

In 1830, from 8th April to 1st March, 1831, six cows produced 1117 lbs. 10 ozs.

This is more than 186 lbs. to each cow.

The above is additional to the supply of a family of 5 or 6 persons, with what new milk is required for mixing bread and other domestic purposes.

The cows are of native stock; several of them raised by Mr. Curtis on the farm, and have no extra feed whatever. Their winter keeping until March is English hay of a medium quality—after March they have the best of English hay until turned to pasture. Their pasturing is very good indeed; they have commonly one feeding of green cornstalks in the latter part of the summer, and are turned early into the mowing grounds in the fall.

The winter keeping is by no means so good as it should be; and without a doubt, more butter would be made in the winter, and the cattle would be likely to feel the beneficial effects of it through the following season, if they had some succulent feed with their hay; such as carrots, ruta baga, or mangel wurzel. The summer produce of cows will depend much upon the manner in which they are kept through the preceding winter. If they are stinted and ill-used, they will not recover from the effects of such treatment by any luxuriance of feed in the subsequent season. A valuable communication on this subject from one of our most intelligent farmers (John Prince, Esq. of Roxbury,) may be found in the publications of the Mass. Agr. Soc. vol. vii. p. 163.

Carrots are an excellent food for cows. I know of no objection to this use of them; though they tend to increase the richness rather than the quantity of the milk. They are beneficial however in the latter respect. Ruta baga increase the quantity of the milk, but do not improve its quality. They rather, as far as my observation goes, render it thin; though I do not find that they affect the taste of the milk, unless a portion of the tops is given with them or they are given to the animal with the sprouts on in the spring. They are very beneficial to the health of the animal. Raw potatoes increase the quantity but injure the quality of the milk. One of our most experienced and intelligent milk farmers in the vicinity of this town (J. Nichols, Esq.,) who keeps from thirty to forty cows, allows one peck of vegetables and two quarts of Indian meal to each cow per day, in addition to as much of the best of English hay as they will eat. The meal is of the greatest importance to the quality of the milk. "He says, he is confident that he can at any time increase the quantity of milk in the proportion of eight to five by increasing their potatoes and meal. He prefers potatoes to mangel wurzel as he thinks they increase the milk to a greater degree. He is not able to increase the milk in any sudden manner by mangel wurzel, but can do it with potatoes and meal as above stated in forty-eight hours."

Of mangel wurzel as a valuable feed for milch cows I am compelled to speak with great hesitation. I know the popular opinion is altogether in their favor; but experience is a teacher to whose authority I must defer before all others. My cows, when they have been fed freely upon them at the rate of from half a bushel to a bushel per day, have invariably been much reduced in flesh. They increase the quantity of the milk; I have been disposed to think they improve its quality; this point however is not settled with me; but they have very much injured the condition of the cows, who have been freely fed with them.

There are some authorities in this case, which certainly deserve attention. It is confidently stated that Mr. Coke's cows (the most celebrated farmer in England) were very materially injured by the free use of the mangel wurzel and some of them died. A writer in the British Farmer's Magazine, vol. ii. p. 155, a strong advocate of mangel wurzel, says "that he has no doubt this arose from its being used in an unlimited manner immediately upon its being drawn from the ground. The roots ought not to be used before Christmas, and the cattle ought to be habituated to them by degrees. I have known beasts to suffer very much from inattention to this rule. Experiment only can determine this. My mangel wurzel have been used both in spring and fall, and through the winter.

Another writer, in the same Magazine (p. 212,) though upon the whole an advocate for this plant, says "that mangel wurzel are highly purgative and reduce cattle to a very thin state. As regards their feeding properties, we have observed thus much, that cattle to which they were given in moderation with a quantity of hay throve indifferently; and that the same cattle, changed from them to a moderate quantity of Swedish turnips, made twice the progress in condition."

At the meeting of the Manchester Agricultural Society, Eng. in Nov. 1829, the Rev. Henry Berry, one of the most distinguished breeders and feeders of stock in England, and who, in this respect, ranks next to the celebrated Bakewell, remarked, "to the comparative merit of mangel wurzel and Swedish turnips I have paid great attention. I shall strictly confine myself to facts, which have come under my own observation; and in what I have to say I shall have to differ from many high authorities. It has been said that mangel wurzel is more nutritive than Swedish turnips, but I am decidedly of a contrary opinion. Some years ago I was a great grower of mangel wurzel, and I gave it very liberally to my cows; but I soon found that it reduced them to skeletons; they certainly gave a great quantity of milk whilst feeding on this root, but the milk was both thin and poor." British Farmer's Mag. vol. iii. p. 480.

It will be readily granted, that there are many counter authorities. With respect to my own case, they may have been given in too great quantities; or the feeding may have been begun too early in the season; or it should have been accompanied with something else besides good hay; or the flesh of the cows may have been reduced by some other unknown cause. I submit the facts, as I believe them, and the authorities as cited to the judgment of those concerned. They are certainly a valuable vegetable for many purposes and yield a most extraordinary produce; and in conjunction with Indian meal, may prove an unexceptionable feed. I shall be happy if my suggestions lead to farther and more exact experiments; and if they are not better feed for milch cows than is feared by some, the same objections may, by no means, lie against the sugar beet, one of the same family, and as easily cultivated; but of this plant, my cultivation and use have been quite limited. Brewers' grains are greedily eaten by cows. They increase the quantity of milk as much as almost any food that can be given, but injure its quality, and rather tend to reduce the flesh. They certainly do not improve the condition of the animal. The cows in the London milk establishments, are fed almost exclusively in some cases upon grains, at the rate of more than a bushel per day; but they are often injured, either by excessive feeding, or constant confinement to the stable, from which, in many cases, they are never allowed to move; their water being conveyed to them.

Of the articles of food that are ever given to animals, Indian meal is decidedly above all others. It is an excellent accompaniment to all succulent food. Nothing will so much improve the quality of the milk; though it sometimes tends to scour the animal too much, and to produce fatness rather than abundant secretions of milk.

It may be deemed likewise, at the present prices of corn, rather an expensive feed; and cows which have been fed excessively upon it, are sometimes seriously injured; and suffer very much when after long use, their meal is withdrawn; half a peck a day is an extravagant allowance; and two quarts is perhaps as much as may be safely persevered in; and both in respect to cows and horses, it is much better to give it mixed with cut hay than to give it alone.

It has been long my opinion, that the greatest blessing of an agricultural nature which Divine Providence has bestowed upon the earth, is the power of producing Indian corn. This is in truth the gold dust of the farmer, which is sure to reward his skill, toil, and industry.

In a communication involving important facts, it seems to me, the community are entitled to a responsible authority. This induces me to append my name. Yours respectfully,

Salem, April 20, 1831. Henry Colman.

CULTURE OF CORN.

To the Editors of the Enquirer:

Gentlemen,—I have had it in contemplation for some time, to expose my views (through the medium of your paper,) relative to the cultivation of corn. It has been a custom in Virginia, for some time, to cultivate this crop by cross-ploughing, or ploughing it both ways; by which means the land is destroyed by washing rains, and the soaking and dripping of the strength down the plough furrows. My plan to prevent this distressing disaster, is to plough the high land in large furrows around the hill: to let the plough cut very deep, and turn down the hill. By this course, there may be one-third more ploughing done per day. After having completed all the ploughing, run a large rake-harrow over it, and make it fine. It will then be ready for planting. Take a shovel-plough, and lay it off upon the horizontal plan, leaving a space of about six feet between each row in the shovel-furrow, run a coulter about eight or nine inches deep, the furrows of which will close up, and upon this plant the corn leaving a space of about two feet between each hill of corn—cover it with the foot, and press the dirt down to the corn, which will prevent the land from baking, make it retain the moisture much longer, and the corn will come up sooner and better. By thus using the shovel-plough and coulter together when planting, the corn will stand a drought much longer. When it is time to commence weeding, run the coulter very deep on each side of the corn, and as near as possible, weed after it. After getting over with the hoe, run the shovel-plough next to the corn on each side, then follow on with a small plough and run a furrow next to each shovel furrow, which will make four furrows to the row. After running over all the crop in this manner, turn back with the small ploughs, and break out the middles. After breaking out all the middles, begin again, and run four more furrows the second time, next to the corn, with a plough that turns well, so as to lap the dirt across the row; and after getting over with the four furrows, break on the middles. This last ploughing should be followed by the hoes; and after getting over with them, run twice in each row with a small drag-harrow, three feet wide, and having nine teeth; which will complete the highland crop. By pursuing the above course, there will be much more corn made, and the land will be exempt from washing rains.

The flat land should be thrown up into beds, to prevent its sobbing; and the corn planted as above directed. When it is time to weed it, run a small plough with the bar of it next to the corn, say eighteen inches off; which will throw the dirt into the water furrows. Run again the second time, with the bar very near the corn, throwing the dirt into the first furrow. The hoes should follow this ploughing, and put a little dirt to the corn. So soon as the corn will bear the dirt, it should be put to it, by a plough that will turn well, so as to lap in properly, which will prevent the grass from drawing the corn. After getting over with the bedded land in this way, begin again, and run one furrow next to each of those already run; which will make four furrows to each row; then go on to break out the middles. The whole of the above cultivation, will take ten furrows to the row. Wind up by running the small drag harrow twice in each row. It will be well to let the hoes go over and cut out the weeds, &c. which will be between the stalks of corn.

I have no hesitation in saying, if the above course were pursued, that the farmer would save his land, raise a better crop of corn, with less labor, and the succeeding year reap a much better crop of wheat.

A Farmer of Louisa.

HORTICULTURE.

(From Blackwood's Magazine for April.)

SIR HENRY STEUART'S THEORY OF TRANSPLANTATIONS.*

Trees are indeed the glory, the beauty, and the delight of nature. The man who loves not trees—to look at them—to lie under them—to climb up them, (once more a school-boy,)—would make no bones of murdering Mrs. Jeffs. In what one imaginable attribute, that it ought to possess, is a tree, pray, deficient? Light, shade, shelter, coolness, freshness, music, all the colours of the rainbow, dew and dreams dropping through their umbrageous twilight at eve or morn,—dropping direct,—soft, sweet, soothing, and restorative, from heaven. Without trees, how, in the name of wonder, could we have had houses, ships, bridges, easy-chairs, or coffins, or almost any single one of the necessaries, conveniences, or comforts of life? Without trees, one man might have been born with a silver spoon in his mouth, but not another with a wooden ladle.

Tree by itself tree, "such tents the patriarchs loved,"—*ipse nemus,*—"the brotherhood of trees,"—the grove, the coppice, the wood, the forest,—dearly, and after a different fashion, do we love you all!—and love you all we shall, while our dim eyes can catch the glimmer, our dull ears the murmur, of the leaves,—or our imagination hear at midnight, the far-off swing of old branches groaning in the tempest. Oh! is not merry also sylvan England? And has not Scotland, too, her old pine forests, blackening up her highland mountains? Are not many of her rivered valleys not unadorned with woods,—her braes beautiful with their birkin shaws?—And does not stately ash or sycamore tower above the kirk-spire, in many a quiet glen, overshadowing the humble house of God, "the dial-stone aged and green," and all the deep-sunk, sinking, or upright array of grave-stones, beneath which

"The rude forefathers of the hamlet sleep?"

We have the highest respect for the ghost of Dr. Johnson; yet were we to meet it by moonlight, how should we make it hang its head on the subject of Scottish trees! Look there, you old, blind, blundering blockhead! that pine forest is twenty miles square! many million trees, there, have at least five hundred arms each, six times as thick as ever your body was, sir, when you were at your very fattest in Bolt court.

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* The Planter's Guide: or, a Practical Essay on the best Method of giving immediate effect to wood, by the removal of large trees and underwood; being an attempt to place the art on fixed principles, and to apply it to general purposes, useful and ornamental; chiefly intended for the climate of Scotland. By Sir Henry Steuart, Bart. LL. D. F. R. S. E. &c. William Blackwood, Edinburgh; and T. Cadell, London. 1828.

As for their trunks—some straight as cathedral pillars; some flung all away in their strength across cataracts; some without a twig till your eye meets the hawk's nest diminished to a blackbird's, and some overspread, from within a man's height of the mossy sward, with fantastic branches, cone-covered, and green as emerald—what say you, you great, big, lumbering, unwieldly ghost you, to trunks like these? And are not the forests of Scotland the most forgiving that ever were self-sown, to suffer you to flit to and fro, haunting unharmed their ancient umbrage? Yet—Doctor—you were a fine old tory every inch of you, for all that, my boy—so come glimmering away with you into the gloom after us—don't stumble over the roots—we smell a still at work—and neither you nor I—shadow nor substance (but, prithee, why so wan, good Doctor? Prithee, why so wan!) can be much the worse, eh, of a caulker of Glenlivat?

Every man of landed property, that lies fairly out of arm's length of a town, whether free or copyhold, be its rental above or below forty shillings a year, should be a planter. Even an old bachelor, who has no right to become the father of a child, is not only free, but in duty bound to plant a tree. Unless his organ of philo-progenitiveness be small indeed, as he looks at the young, tender plants in his own nursery-garden, his heart will yearn towards them with all the longing and instinctive fondness of a father. As he beholds them putting forth the tender buds of hope, he will be careful to preserve them from all blight—he will "teach the young idea how to shoot," —and, according to their different natures, he will send them to different places to complete their education, according as they are ultimately intended for the church, the bar, or the navy. The old gentleman will be surprised to see how soon his young plants have grown as tall as himself, even though he should be an extraordinary member of the Six Feet Club. An oak sapling, of some five or six springs, shall measure with him on his stocking-soles—and a larch, considerably younger, laugh to shake its pink cones far over his wig. But they are all dutiful children—never go stravaiging from home after youthful follies—and standing together in beautiful bands, and in majestic masses, they will not suffer the noon-day sun to smite their father's head, nor the winds of heaven to "visit his face too roughly."

People are sometimes prevented from planting trees from the slowness of their growth. What a mistake that is!—people might just as well be prevented from being wed, because a man-child takes one and twenty years to get out of his minority, and a woman-child, except in hot climates is rarely marriageable before fifteen. Not the least fear in the world, that Tommy and Thomasine and the tree will grow up fast enough—wither at the top—and die! it is a strange fear to feel—a strange complaint to utter—that any one thing in this world, animate or inanimate, is of too slow growth; for the nearer to its perfection, the nearer to its decay.

No man, who enjoys good health, at fifty or even sixty, would hesitate, if much in love, to take a wife, on the ground that he could have no hope or chance of seeing his numerous children all grow up into hobbledeboys and priscilla tomboys. Get your children first, and let them grow at their own leisure afterwards. In like manner, let no man, bachelor, or Benedict, be his age beyond the limit of conversational confession, fear to lay out a nursery-garden—to fill it with young seedlings—and thenceforward, to keep planting away, up hill and down brae, all the rest of his life.

Besides, in every stage, how interesting, both a wood and sap tree, and a flesh and blood child! look at pretty ten-year-old, rosy cheeked, golden-haired Mary, gazing, with all the blue brightness of her eyes, at that large dew-drop, which the sun has let escape unmelted even on into the meridian hours, on the topmost pink-bud, within which the teeming leaf struggles to expand its beauty—the topmost pink-bud of that little lime-tree, but three winters old, and half a spring!—hark!—that is Harry, at home on a holiday, rustling like a roe in the coppice-wood, in search of the nest of the blackbird or mavis; —yet ten years ago that rocky hill-side was unplanted, and "that bold boy, so bright and beautiful," unborn. Who, then,—be his age what it may,—would either linger, "with fond, reluctant, amorous delay," to take unto himself a wife, for the purpose of having children, or to enclose a waste for the purpose of having trees?

At what time of life a human being—man or woman—looks best, it might be hard to say. A virgin of eighteen, straight and tall, bright, blooming, and balmy, seems, to our old eyes, a very beautiful and delightful sight. Inwardly we bless her, and pray that she may be as happy as she is innocent. So, too, is an oak tree, about the same age, standing by itself, without a twig on its straight, smooth, round, glossy, silver stem, for some few feet from the ground, and then branching out into a stately flutter of dark-green leaves; the shape being indistinct in its regular but not formal over-fallings, and over-foldings, and over-hangings, of light and shade. Such an oak tree is indeed truly beautiful, with all its tenderness, gracefulness and delicacy,—ay, a delicacy almost seeming to be fragile, as if the cushat whirring from its concealment, would crush the new spring-shoots, sensitive almost as the gossamer, with which every twig is intertwined. Leaning on our staff, we bless it, and call it even by that very virgin's name; and ever thenceforth, behold Louisa lying in its shade. Gentle reader, what it is to be an old, dreamy, visionary, prosing poet!

Good God! let any one who accuses trees of laziness in growing, only keep out of sight of them for a few years; and then, returning home to them under cloud of night, all at once open his eyes, of a fine, sunny, summer's morning, and ask them how they have been since he and they mutually murmured farewell! he will not recognise the face, or the figure, of a single tree. That sycamore, whose top-shoot a cow, you know, browsed off, to the breaking of your heart, some four or five years ago, is now as high as the "riggin" of the cottage, and is murmuring with bees among its blossoms, quite like an old tree. What precocity! that wych elm, hide-bound as it seemed of yore, and with only one arm that it could hardly lift from its side, is now a Briareus. Is that the larch you used to hop over?—now almost fit to be a mast of one of the fairy fleet on Windermere! you thought you would never have forgotten the triangle of the three birches,—but you stare at them now as if they had dropped from the clouds!—and since you think that beach—that round hill of leaves—is not the same chabby shrub you left sticking in the gravel, why call the old gardener hither, and swear him to its identity on the Bible.

Before this confounded gout attacked our toe, we were great pedestrians, and used to stalk about all over the banks and braes from sunrising to sunsetting, through all seasons of the year. Few sights used to please us more than that of a new mansion-house, or villa, or cottage ornee, rising up in some sheltered, but open-fronted nook, commanding a view of a few bends of a stream or river winding along old lea, or rich holm ploughed fields,—sloping uplands, with here and there a farm-house and trees,—and in the distance hill-tops quite clear, and cutting the sky, wreathed with mists, or for a time hidden in clouds. It set the imagination and the heart at work together, to look on the young hedge-rows and plantations, belts, clumps, and single trees, hurled in from the nibbling sheep. Ay, some younger brother, who, twenty, or thirty, or forty years ago, went abroad to the east, or the west, to push his fortune, has returned to the neighbourhood of his native vale at last, to live and to die among the braes, where once, among the yellow broom, the school-boy sported gladsome as any bird. Busy has he been in adorning,—perhaps the man who fixes his faith on Price on the Picturesque, would say, in disfiguring,—the inland haven where he has dropt anchor, and will continue to ride till the vessel of life parts from her moorings, and drifts away on the shoreless sea of eternity. For our own parts, we are not easily offended by any conformation into which trees can be thrown—the bad taste of another must not be suffered to throw us into a bad temper—and so long as the trees are green in their season, and in their season, purple, and orange, and yellow, and refrain from murdering each other, to our eye they are pleasant to look upon,—to our ear it is music, indeed, to hear them all a-murmur along with the murmuring winds. Hundreds—thousands of such dwellings have, in our time, arisen all over the face of Scotland; and there is room enough, we devoutly trust, and verily believe, for hundreds and thousands more. Of a people's prosperity, what pleasanter proof! and, therefore, may all the well-fenced woods make more and more wonderful shoots every year. Beneath and among their shelter, may not a single slate be blown from the blue roof, peering through the trees, on the eyes of distant travellers, as he wheels along on the top of his most gracious majesty's mail coach;—may the dryads soon wipe away their tears for the death of the children that must, in thinnings, be wede away;—and may the rookeries and heronries of Scotland increase in number for the long space of ten thousand revolving years!

Not that we hold it to be a matter of pure indifference, how people plant trees. We have an eye for the picturesque, the sublime, and the beautiful, and cannot open it, without seeing at once the very spirit of the scene. O ye! who have had the happiness to be born among the murmurs of hereditary trees, can ye be blind to the system pursued by that planter—nature? nature plants often on a great scale, darkening, far as the telescope can command the umbrage, sides of mountains that are heard roaring still with hundreds of hidden cataracts. And nature often plants on a small scale, dropping down the stately birk so beautiful, among the sprinkled hazels, by the side of the little water-fall of the wimpling burnie, that stands dishevelling there her tresses to the dewwind, like a queen's daughter, who hath just issued from the pool of pearls, and shines aloft and aloof from her attendant maidens. But man is so proud of his own works, that he ceases to regard those of nature. Why keep poring on that book of plates, purchased at less than half price at a sale, when nature flutters before your eyes her own folio, which all who run may read,—although to study it as it ought to be studied, you must certainly sit down on mossy stump, ledge of an old bridge, stone-wall, stream-bank, or broomy brae, and gaze, till woods and sky become like your very self, and your very self like them, at once incorporated together and spiritualized. After a few years' such lessons—you may become a planter—and under your hands not only shall the desert blossom like the rose, but murmur like the palm, and if "southward through Eden goes a river large," and your name be Adam, what a skeptic not to believe yourself the first of men, your wife the fairest of her daughters Eve, and your policy Paradise!

Unless you look and listen, and lay to heart what you see and hear, you will make a pretty pickle of planting.—Huge wagons come hulking along the cross-roads piled up with all sorts of young trees swathed in mats, and you and your grieve and his men cannot rest till they are all stuck into the soil—higgledy, piggledy, promisky, and on the principle of liberty and equality—each plant being allowed the same want of elbow room, and the same chance—no choice—of dry or moisture. Here a great awkward overgrown hobbledehoy of a poplar, who keeps perpetually turning up the whites of his leaves at every breathe that blows, stands shivering like an aspen, cheek by jowl with a squat, sturdy, short-necked, bandy-legged pech of a Scotch fir, as dour as the devil in a squall, though, unlike that gentleman, unable to stand hot weather, and looking in a brown study, indeed, during the dog-days. Here, again, the greenest of all saughs, brightening with the love of life, in a small marsh,—for the saugh loves wet like the whaup,—by the side of the yellowest of all larches, pining and dwindling in the fear of death, shooting six inches on an average every year, but, which is the top shoot no man can tell, and eaten alive by insects.—There, seven as pretty young oaks as you may see on a summer's morning committing fraticide for possession of that knoll! Now that yonder ash has, after a sore tussel. got these two elms down, you may depend upon it he will not let them up again in a hurry; or if he does, why that sycamore will settle him for such stupidity, having the advantage of the ground, and being his superior in height, weight, and length, and at least his equal in science. And then is there not something exceedingly pretty in the variegation of such patchwork policy? Pretty as any coverlet to any old woman's bed in all the parish? No great, huge, black, sullen, sulky masses of shade, no broad bright bursts of sunshine, enough to drive a man mad with sudden mirth or melancholy, as he wanders among the woods—but every tree standing by itself, with an enormous organ of individuality, so that you cannot help trying to count them, yet never get beyond a score, being put out of your reckoning by an unexpected poplar standing with his back against a rock, in vain combat with a sharp-nailed silver fir, scratching his very eyes out—a beech bathing in a puddle of moss-water—or something in the shape of an ornamented shrub, struggling in the many-fingered grasp of the strangulation heather, like a Cockney entangled among the Scottish Thistles of Blackwood's Magazine.

Then what a pest are your prigs of professional planters. They walk with such an air about your rural premises, as if you had not a single eye in your head, and did not know a frowning ash from a weeping birch, a bour-tree from a gooseberry bush, whins from broom, or rasps from rowans. If there be a barn or byre on the estate, they begin with planting it out as if it were a poors' house, or an infirmary, or a tan yard, or perhaps pulling it down; in which case, what becomes of the corn and the cows?

> "Of a' the airts the wind can blaw,
>   You dearly lo'e the west;
> For there the bonny lassie lives,
>   The lass that you lo'e best."

And with many a beautiful sunset has your soul sunk away behind the gorgeous weather-gleam, into her fair and far-off bosom. The monster plants it out, too, and be hanged to him, with a spindle-shanked grove, that will continue to wear a truly transplanted and haggard appearance to the day of judgment. (To be continued.)

MRS. PARMENTIER'S GARDEN.

In again directing attention to this subject, we shall at once pay a sincere tribute of admiration to a most interesting and useful establishment, and of respect to the amiable and highly deserving female who directs it; at the same time we hope that it may be useful to the public, by pointing out a source of delightful enjoyment. One cannot walk through this extensive and well arranged garden without being struck by the immense amount of labor, directed by taste and science, that must have been employed in the arrangement of it: or cease to lament the death of the late proprietor, from the continuance of whose efforts this extensive but unfinished establishment might have been rendered one of the proudest ornaments of our neighborhood. Fortunately however, Mrs. P. inherits the taste and spirit of her husband, and is determined to accomplish what he so nobly commenced. Her success depends on the patronage of the public; and all who feel an interest in improving and embellishing our neighborhood, are invited to visit this establishment, and we are quite sure they will find an ample remuneration for their pains, in a view of its extensive and splendid collection of plants and flowers. All that is rare, and curious, and beautiful, is here collected: the hardiest alpine plant grows side by side with the delicate lily of the valley, and the thorn and the thistle are looking with envy at the rose and violet which are growing over against them.—Public spirit and interest alike invites our citizens to encourage this establishment, which is already a most valuable *depot*, from which the rarest exotics, and the most beautiful, as well as the most common indigenous shrubs, plants and flowers may be obtained at the most reasonable rate; and our females will here find bouquets of nature's own make, far more beautiful than those of the Parisian *marchand des modes*.

[*N. Y. Com. Adv.*

MISCELLANEOUS.

FELLENBERG INSTITUTION,

At Bolton Farm, near Bristol, Pennsylvania.

The undersigned have associated themselves, and have opened on Bolton Farm, an institution to be conducted on the principles of the justly celebrated school of Emanuel Fellenberg, at Hofwyl, in Switzerland, with such modifications as circumstances may render necessary.

This institution consists of three departments.

1st. A school under the joint direction of the Rev. William Chaderton, and Mr. F. A. Ismar, in which the pupils universally are taught the Greek, Latin, and English languages, writing, mathematics, (comprehending arithmetic, algebra, geometry, and application of algebra to geometry,) natural philosophy, chemistry, history, and geography. The pupils in this school may also, at the option of parents or guardians, be instructed in the French, German, and Spanish languages, or any of them; and likewise in music and drawing.

2d. A school under the direction of Mr. F. A. Ismar, for the education of farmers and mechanics, in which the pupils will be instructed in theoretical and practical agriculture, and the mechanic arts, and mathematics, with particular reference to other branches; also, the English, German, French, and Spanish languages, natural history, the technological parts of chemistry, and natural philosophy, history, and geography. The whole course in this department will occupy four years.

3d. A Normal School under the direction of Mr. Ismar, where young men are prepared to become teachers on the Fellenberg system. The course will require three years.

SPECIAL TERMS.

1. *First Department.*—Into this school boys are admitted at a very early age, as soon as they have learned to read,—the charges are as follows:—for all the branches of education before specified as common, and which are considered as necessary to be learned by all the boys, and for any one of the modern languages, French, or German, or Spanish, and also for board, washing and mending, $300 a year, in cash, payable half-yearly in advance: for instruction in either of the modern European languages, besides the one which enters into the general charge, $10 a quarter. For music and drawing no charge is yet determined on.

2. *Second Department.*—The boys to be received into this school must be at least twelve years of age. The charge for tuition, board, lodging, washing, and mending, is $100 a year, half in produce, and half in cash, the latter payable half yearly in advance.

3. *Third Department.*—The age of pupils at entrance into this school must be at least fifteen years, they must also be able to read and write, and they must have learned the elements of arithmetic. The charge for tuition is, $150, payable half-yearly in advance, half in cash, and half in produce.

GENERAL TERMS.

1. All pupils are required to bring with them at entrance, a bedstead, in length five and a half feet, breadth, two and a half feet, with mattress, and bedclothes and towels.

2. After the clothes which they bring with them are worn out, all the pupils will be required to have an uniform, cheap and convenient.

3. The table of all the pupils is common, all without any distinctions, will uniformly eat together, and fare alike.

4. Books and stationary, and all other incidental expenses, incurred for any of the pupils, will form an additional charge.

5. It is the anxious wish of the directors that no vacations whatsoever should be allowed in this institution; yet they reluctantly consent to grant the pupils an intermission of one week, to visit their friends, during the Christmas holydays; at no other period will leave of absence be given to any pupil, except in cases of the greatest urgency. Parents and guardians of the pupils will always be cheerfully received at Bolton, and care will be taken to provide them in the immediate neighbourhood reasonable and respectable board and lodging.

6. The correspondence between the parents and guardians, and their children and wards, is not subject to inspection; but no letter from other persons will be delivered to the party addressed, without having been previously read by the directors.

7. No presents of books and drawings, &c. will be admitted without the previous consent of the directors; delicacies for the palate on no condition.

8. It is required that the directors should be informed of the amount of pocket money which may at any time be given to the pupils.

9. The postage must be paid on all letters addressed to any of the pupils, or to any of the directors of this institution on matters of business.

10. Interference with the internal policy and discipline of the institution on the part of parents, and incorrigibleness on the part of the pupils, will be causes of dismission or expulsion of the latter, without any allowance of the advance payment.

A Gymnasium is established at Bolton, for which there will be no additional charge.

William Chaderton.
(Copy.) F. A. Ismar.
Bolton Farm, May 17, 1831.

Enquirers in Philadelphia are referred to
Thomas C. James, M. D.
William Meredith.
Roberts Vaux.
Job R. Tyson.
Gouverneur Emmerson, M. D.

(From the Genesee Farmer.)

RABBITS.

Rabbit-keeping was never so much practised in Europe, as it is at the present day.—Not only do multitudes of young people keep *common* rabbits for their amusement, and others for the table, but many gentlemen have become rabbit breeders, to a considerable extent. The most extensive establishments, however, are devoted to the rearing of the white rabbits only, on account of the superior value of their skins.

Fancy rabbits are rarely to be met with in this country; and even in England, good ones are valued so high, that common dealers rarely have the means to purchase them. A rabbit, of whatever color, is certainly a beautiful little animal, but the common breed are far inferior in beauty of appearance, to the fine lop-eared and long-dew-laped animals, reared among the fanciers. I am convinced that any person who sees a well ordered rabbitry, containing some good specimens of fancy rabbits, will be so struck with their superior beauty of appearance, that he will not think of merely keeping the common kind, for pleasure. Still the white rabbits of this country, are the ones I should recommend for profit or food.

Those who have never had an opportunity of seeing fancy rabbits, will probably be surprised to learn the varieties which exist; and as I propose to give a short account of them, I will begin with a notice of the

Wild Rabbit.—Wild rabbits are considerably less than those which are kept in a domestic state. They are for the most part of a grey color; but a few black, black and white, and even fawn colored rabbits are to be seen in some warrens. The flesh of the wild rabbit is in general preferred to that of tame ones, but the latter may be much improved in flavor by judicious feeding, and affording the animals good air, and sufficient room to exercise.

It is said that the rabbit will breed eleven times a year, and bring forth generally eight young ones each time; at this rate, in four years a couple of rabbits would produce almost a million and a half.

Notwithstanding the fecundity of the animal in its wild state, it is much more profitable when domesticated; for although a prudent fancier will not suffer his doe to have young more than five or six times in a year, the produce of the tame animal, on account of the care taken of them, will be greater at the end of the year than that of the wild one; for multitudes of the wild ones are destroyed by damp, the old buck, and by animals of prey.

The Common Domestic Rabbit,—Is of various colors, white, grey, fawn, mouse, &c. &c. Their price vary according to their age, size, and beauty. In this village, (Rochester) a pair of half grown whites can be had for 50 cents. The chief objects in keeping the common rabbits are for the purpose of occasionally furnishing a dish for the table, and for their *skins.* For the former, those who keep them, attend particularly to the sorts whose flesh is said to be the best; and when their skins is the object they look principally to the colour. The large hare-coloured variety is much esteemed by some people, but the white or white mottled with black or yellow, are more delicate in flesh. The grey and some of the black approach nearer the flavor of the wild rabbit than any others.

Lop-eared or Fancy Rabbits.—Formerly, a fine rabbit of any two colors, however short its ears, was accounted a fancy animal; it is now very different. In the eye of a fancier, the lopped ear is an indispensable requisite. The first things which are looked at, are the length and fall of the ears; the dew-lap, if the animal is in its prime, is next noticed; the colors and marks are then inspected; and lastly, the shape and general appearance. Rabbits, whose ears do not extend to fourteen inches from tip to tip, measured across the skull, would be reluctantly admitted into a fancier's stock, if they fell ever so finely; nor in case they exceeded that length, if they did not lop or fall downward in a graceful manner.

The dew-lap, which is only seen in fancy rabbits, sometime after they have attained their full growth, adds materially to the beauty of their appearance. It commences immediately under the jaw, goes down the throat and between the fore legs; it is so broad that when the head reposes upon it, it projects beneath the chin, and on each side beyond the jaws; when the fur on it is of a beautiful color it produces a fine effect.

There are several grades between the up-eared rabbit, and the true and perfect *fancy lop.* The first remove from the common carriage of the ears, is where they fall backward ungracefully over the shoulder, with the hollow part outward. A rabbit that carries its ears in this manner, is not allowed to be a fancy animal, being worth but very little more than a common one. The next, and in fact, the most general position of the ears, is the *half-lop.* One of the ears lops outward, and the other remains upright. Sometimes the ear which lops falls close to the cheek; in this case, the other, instead of being nearly horizontal, is drawn over by the weight of the lopped-ear, and when the animal is in a state of rest, rather inclines to the same side of the head as the ear that lops. Rabbits of this description, however beautiful in shape, and fine in color, are not considered valuable; but they are in general well bred, and often throw first rate rabbits.

Were all the young rabbits which are bred from fancy animals to be reared, one half of them at least, would carry one ear upright; a quarter of them would be entirely up-eared, and the rest would be oar-lopped or horn lopped; and occasionally a perfect *fancy fall* of both ears would occur.

The horn lop.—Which is one degree nearer perfection than the half lop, is when the ears fall downward, and project forward in front of the head like horns. It is frequently the case, that rabbits with this property are more perfect in other respects than any others; and it is also common for them to occasionally raise one ear. The variety, however, more frequently degenerates into the

Oar Lop.—The ears, in this variety of the lop, spread out horizontally from the side of the head like a pair of oars from a boat. A great many very excellent does are more or less oar-loaped, and the best bred bucks in the fancy are generally entirely so. A rabbit frequently carries one ear in a correct position, while the other is raised sufficiently to constitute it an oar-lop. This, though by no means a capital carriage of the ears, is superior to all others, except the perfect fall; and rabbits whose ears both drop handsomely over the cheek are so rare, that those which are only oar-loped are valuable animals, if all their other properties are correct. We now come to the

Real Fancy Lop.—The ears of the real lop fall from the roots down by the side of the cheek, slanting a little outward in their descent, with their hollow parts inward, outward, and a little forward, or partly backward; and their tips touching the ground, when the animal holds its head in the usual position.

For a first rate fancy lop, the hollows of the ears should be turned so completely backward, that the outer, or convex part of them may only appear in front; they should match perfectly in their fall, and the less they start outward in their descent from the roots, the more handsome they are considered.—These perfect lops are so rare, that a breeder with a stock of twenty does, of superior blood and beauty, and all of them nearly or quite perfect, may think himself very lucky, if they produce a dozen first rate lops in a season.

Fine bodied young rabbits are frequently sacrificed, because they are up-eared, while others are reared with scarcely one half the substance, and perhaps inferior in color, because their ears both fall.

Young rabbits seldom lop their ears until they are separated from the doe. It is best to put them at first in an open hatch for half an hour, so that they may be tempted to look over the edge of the bottom; toward the ground; this will make their ears drop. It frequently happens that a very promising rabbit, at two months old, whose ears lop perfectly, will raise one of them when he attains double that age; and others again, lop only one ear, until they are three parts grown, when the other falls, so as to render them a perfect match.

The color of a rabbit is of great importance. Grey is the worst of all colors; black is the next; fawn, fawn and white and grey, are the next; pure white with red eyes, is considered by many as superior to the last; but tortoise shell and mouse color, are the most admired by the fanciers.

In my next, I will enlarge upon the rabbitry and hatches, feeding, breeding, diseases, and general directions.

* * * *

Mr. Samuel Dare, of Salem county, N. J. slaughtered a hog, 11th ult. which weighed when alive, 1074 lbs. and when dressed 954.

ON WATCHING THE WEATHER.

"He that observeth the wind shall not sow; and he that regardeth the clouds shall not reap."

It always looks to me very suspicious, when I see a farmer turning his eye frequently to the clouds, and watching sedulously the action of the winds. It appears as though he wanted an excuse to get rid of labor, and is willing to throw the blame of his own idle and do-nothing disposition upon the weather.

"The wind is very high to-day, and it wont do to sow at all; all the grain will be blown away; there wont a kernel of it light in the furrows; it will all be whistled away to the moon, or carried into yonder swamp, where I shall never see it again. Heigho! it will never do to sow in this weather, I'm persuaded, Jose, you may unyoke the oxen, we shall have no use for the harrow to-day."

Such were the observations of Mr. Lackadaisy, one fine morning, after wetting his finger in his mouth, and holding it up to see which way the wind was. He could not sow, poor man, because the wind was so high; it would blow all the grain away, and he should lose his labor and the grain into the bargain. But the truth of it was, he had no disposition to sow, and was glad even for a bad excuse of putting it off.—And this he continued to do from day to day, though the weather was as favorable for putting the seed into the ground as the most careful farmer could desire.

At length, however, the grain was sown, though so late in the season as not to produce above half a crop. But when the time of harvest came, there was the same disinclination to put in the sickle, that there had formerly been to put in the seed. Poor Mr. Lackadaisy could never make up his mind to commence reaping, because he was so intently watching the clouds, "O this weather! this weather!" he would exclaim—"I shall never be able to secure my grain—it beats all—I never saw such weather in all my life—constantly cloudy!—cloudy!"

And so, turning up his eyes to the heavens and shaking his head, though there was scarcely a cloud to be seen, he would hang up his sickle, shoulder his angling rod, and go a fishing. Even when the sky was perfectly clear, he could not think of reaping. But casting a dubious eye over the whole blue canopy, he would say—"This is a weather breeder—we shall soon have a storm—I never knew it fail when the sky was without a cloud! It will never do to think of reaping with such a prospect; the grain will all be spoilt; it will sprout in the gavel; it will mould in the sheaf. No—I'd much rather have it standing than cut in such weather."

So saying, Mr. Lackadaisy would again shoulder his angling rod and post off two or three miles a fishing. He seldom caught any thing; but then he sometimes had some glorious nibbles, and even these he considered as better than reaping with the signs of a storm coming on.—Thus, from day to day, he kept anxiously watching the weather, and wondered how his neighbours could be so rash, so blind to their own interests, as to think of cutting their grain with such a prospect before their eyes. "But, thank heaven!" said he, I understand the signs of the weather better than that comes to."

In this manner, the harvest of Mr. Lackadaisy was put off until his grain was mildewed, broken down, and shelled out to such a degree, as to be hardly worth reaping. He did, however, cut it at last, but with the loss of a great part of his half crop.

"Tis strange!" said he—"very strange! how other people dash on, and sow without regarding the wind, and reap without paying any attention to the clouds. And yet they get good crops—excellent crops; while I, who spend nearly all the time in watching the winds and the clouds, scarcely raise enough to keep a hen from starving! 'Tis very strange, as I said before, but this is just my luck! Some how or other, it seems as if I never was made to prosper, notwithstanding all the care I take in the management of my business. If I were to pay no more regard to the weather than farmer Active and others do, I should be wholly ruined; for as it is, I can scarcely keep my head above water. But, this, as I said before, is just my luck.

So reasoned and so acted Mr. Lackadaisy; and so thousands of other idle, irresolute, do-nothing persons reason and act. They are glad of any excuse to put off the discharge of their duties; to get rid of immediate labor; to postpone till to-morrow what should be done to-day. And when they fail of success in business; when they do not reap where they have neglected to sow; when they do not make money which they have not laboured for; when they find themselves houseless, supperless, and in rags; they throw all the blame upon their ill luck, and wonder how it happens that other people are more prosperous than themselves.—*N. Y. Constellation.*

PALM LEAF HATS.

Most of our readers have no idea, probably, of the extent to which the manufacture of palm leaf hats is carried in this state. In several towns we might mention, from twenty to fifty thousand are annually made. Two establishments in Barre, those of Messrs. Woods & Lee, sent to market last year, seventy-five thousand each. It is calculated that last year, there were made in New England nine hundred thousand, and the present year two millions, of this species of hats. They are sold for about $3 a dozen, and shipped to the southern states, and some to South America, where they form a favorite article of summer wear.—*Traveller.*

POSTS.

The durability of posts used in making fences is a matter of great importance to farmers, and will continue so as long as the present system of fencing is continued. We are informed that the Shakers at Union Village, have been in the habit of making oak posts as durable as locust, by a very simple and easy process. This is merely to bore a hole in that part of the post which will be just at the surface of the earth, with such a slope as will carry it just below the surface, and fill it with salt. This, it is said, will preserve the timber from decaying for a long time; and from the knowledge we have of the influence of salt, in preserving ship timber when treated in a similar manner, we have no doubt of its being an excellent method.

RECIPES.

TAR.

It is but little known, but it is nevertheless a fact, says the Portland Mirror, that a little tar rubbed on the necks of young lambs or geese, will prevent the depredations of foxes upon them; these animals having an unconquerable aversion to the smell of tar.

FATTENING FOWLS WITH POTATOES.

There is great profit in feeding geese, turkies, and fowls of every sort, with potatoes and meal mixed; they will fatten in nearly one half the time that they will on any kind of corn, or even meal itself. The potatoes must be bruised fine, while hot, and the meal added, when the mess is given to them.—*Soc. of Arts.*

HEAVES IN HORSES.

Take one pound and a half of good ginger, for a horse, give two spoonsful each day—one in the morning, and the other in the evening, mixed with wheat bran. This receipt has been selling at the eastward for $5, where the efficacy of the above medicine has been proved in the cure of several cases of obstinate heaves.

K.

THE FARMER.

BALTIMORE, FRIDAY, MAY 27, 1831.

SPESUTIA FARM.—We feel assured that the detailed account we are about to give of the management of the Spesutia farm of Mr. S. W. Smith of the city of Baltimore, will be acceptable to the readers of the Farmer. The accounts we have occasionally given of the Orange farm, have attracted the notice of farmers in all parts of the Union, and we flatter ourselves that much good will result from them. The farm noticed below is another instance of the advantage of superior management. In relation to the Orange farm it has often been remarked, that the great amount of its produce was attributable to its being a dairy farm, and in the immediate vicinity of a large city; and it availed nothing in refutation of this argument when it was as often stated that there were many other dairy farms in the vicinity of Baltimore, possessing equal and some superior advantages of location, not one of which could show such an account of sales. But the Spesutia farm does not possess this advantage of location, nor any other which probably a thousand others do not possess in at least an equal degree. We shall begin by noticing a regulation in the management of the Spesutia farm of Mr. S. which may be deemed worthy of the consideration of many of our readers—namely the not employing of an overseer.

By not employing an overseer there is avoided, in the first place, an expense of about $500 per year, on account of his salary, and of the boarding of himself, his wife and children. This estimated annual expense may, in some cases be more, and in some cases less. But be it more or less, it is properly chargeable to, and ought to be paid out of the annual products of the farm. To pay, then, for instance $500, would, one year with another, require 1000 bushels of corn, or 500 bushels of wheat, or other equivalent products. The question which consequently here presents itself, is this—viz. would the farm, in virtue of the services of an overseer, produce that large quantity of corn, wheat or other products over and above what it would have yielded under the sole superintendance of the owner himself; or, in other words, by discharging the overseer, would there be an annual diminution in the corn-crop of 1000 bushels, or in the wheat-crop of 500 bushels, or in the aggregate products of the farm to the amount of $500 per year?

The experience of Mr. S. W. S. has, to his full satisfaction shown, that instead of a decrease, there has in point of fact, been an increase. Ever since the discharge of his overseer, there has been an evident yearly improvement of the crops, of the live stock, of the domestic manufactures, and of the general affairs of the farm, insomuch indeed, that the amount of its products have since that time been almost doubled. The negroes, proud of the confidence thus reposed in them, immediately became, and ever since have been, one and all, infinitely more careful and industrious; and their increased care and industry have appeared to proceed altogether from the excitement of a laudable ambition to equal, if not to excel the neighbours in the quantity, in the quality, and in the seasonableness of their work. But it may be asked—are the circumstances of this farm such as to require an overseer? To this it may with truth be replied, that if such an agent be necessary on any farm of a *moderate* size, he in an especial manner, is required on this farm. With a view to establish this position we have only to state its local situation, and the multiplicity and variety of its productions, of its live stock, and of its other concerns. This statement we are moreover induced to make from an expectation that some of the details may attract the notice, and may acquire the approbation of such cultivators of the soil as are disposed to look dispassionately at the husbandry of their neighbours. It may, however, not be amiss, in the outset, to premise, that this farm is conducted upon the principles of a mere money-making establishment, and that therefore it exhibits no pretensions to embellishment; but what is of more importance, it abounds with marks of great attention to convenience and comfort.

1st. The farm is situated at the distance of about thirty-five miles from the residence of the owner. This circumstance alone would seem to render an overseer indispensably necessary. To diminish the evils of so great a distance, he has established an invariable rotation of crops, and a systematic arrangement of all the various operations of the farm. With such uniform regularity, as to time, altered only by casualties, are the several pieces of work begun and ended every year, that in visiting his farm, he knows to a moral certainty, in what particular work he will find his people employed, what progress they have, or ought to have made in the general business, and of course what are the indications, if any, of negligence or idleness. All this, it is obvious, evinces, on the part of the negroes, vigilance and industry.

2d. The farm consists of 450 acres of rich upland, and of about 550 acres of reclaimed marsh, which is in progress of being completely drained. That portion of the upland which is under cultivation, is divided into five equal fields of 70 acres each. The course of rotation is corn, oats, wheat, clover, wheat; a system too severe, were it not for the abundant supply of manure every spring and autumn. The field in corn is manured throughout every spring, and that field in wheat which is on the oat stubble, is manured partially every fall. The accumulating, the hauling and the spreading of such a large quantity of manure require unceasing zeal and industry.

3d. To get out the wheat, oats, and clover seed, there is a costly threshing machine, which necessarily requires the utmost vigilance.

4th. The whole crop of wheat, and part of the crops of corn, and oats, are sent every year by water to the owner in Baltimore; so are also sent, from time to time, beef, hams, butter, and various other articles for the table.

5th. The operations of ploughing, harrowing, and hauling are performed by breeding mares, which have been selected with a view, not only to their work, but to the value of their progeny. From them there are now on the farm many colts of various ages, the sales of which constitute a clear annual gain over and above the profit accruing from the labor of their dams. These colts are served by a full blooded horse, owned by Mr. S. In the place of this horse has been purchased this spring a beautiful stallion of the trotting breed, a colt of the celebrated Fagdown.

6th. Besides these working mares, there are two full blooded valuable Virginia mares, and three colts from them—one a much admired two years old filly, from a favourite son of the New York Eclipse, and the other two are foals of this spring from the Virginia horse Monsieur Tonson. These colts are also intended for sale as part of the profits of the farm.

7th. To his stock of neat cattle, a cross of the Holstein and Bakewell, there has been recently added a bull and two cows of the improved Durham short horn breed.

8th. On the north side of a long line of stables, sheds and barracks, are three convenient grass lots, and on the south side there are, besides the stack yard, three spacious yards with a few subdivisions for the accommodation of every variety of stock. The full blooded mares, the working mares, the neat cattle, the colts and calves are, during the winter, kept in these stables and sheds, and in the yards and lots thereto attached; and they are duly supplied with water from a pump with troughs so arranged as to suit the several yards and lots. The neat cattle are occasionally fed on long necked winter squashes, turnips and potatoes. In addition to these articles of green food they will, the ensuing winter, have cow cabbages and carrots both raised in the field. In the cultivation of carrots, Mr.

S. has adopted, by way of trial, the plan recommended in a number of the American Farmer of last March. And accordingly on an acre of ground, sowed with the usual quantity of flaxseed, he has sowed, this spring, a quart of carrot-seed. Should this experiment answer, his cultivation of carrots will hereafter be every year co-extensive with his flax ground.

9th. The great extent of his rich outside pasturage and the great abundance of his winter provender, enable him to maintain, besides other live stock, a vast number of mares, colts, cows and calves, which of course require untiring assiduity at all seasons and especially in winter.

10th. Such is the attention on this farm to domestic manufactures that no part of the bedding or of the clothing of the people, except their shoes and hats, is purchased.

11th. The ice house, built by the negroes themselves, is every year so carefully filled as to keep the ice in a state of high preservation throughout the whole season.

12th. The apricot and plum trees are all along the fence on one side of the lane leading to the dwelling. They are protected by a parallel temporary fence, made so as to admit the hogs and to exclude the cattle. And as the apricots and plums of these trees do not fall but ripen every year unless destroyed by an early frost, their preservation is attributed to the good offices of the hogs.

13th. The peach and pear trees are preserved by a very simple process. As soon as the leaves of a tree begin to curl or to change their color, the dirt is removed from the roots to the distance of about 12 or 18 inches from the stem of the tree. The roots are carefully scraped and every part wounded by the insects, or at all discolored is cut out and the incision made smooth by a sharp knife. All the roots are then plastered with a thick coat of fresh cow dung, upon this coat of dung are put fresh hickory ashes enough to fill the hole. The dirt dug out is thrown aside, so that the surface around the tree is altogether of ashes.

This enumeration of particulars has been here set forth for the purpose of showing the multifarious matters, requiring circumspection and forethought, which, for a series of years, have been advantageously committed to the care of negroes, and for the further purpose of calling attention to the practical details in the managements of a farm, which, for sometime, has been gradually improving, as is indicated by its general appearance and by the progressive augmentation and amelioration of its productions of every nature and kind.

WILLIS' GRAPE VINE.

Mr. Smith: *Oxford, Md. May 20th*, 1831.

Dear Sir,—As my grape vine has excited so much curiosity amongst strangers and others, I yesterday called in two of my neighbours to try and count the bunches on it. One limb was up a fruit tree so high, that it could not be counted. It covers a large part of the yard in an espalier form, and has run up four fruit trees. You have the certificate of my neighbours enclosed, and may publish it if you please.

I have the honor to be, your most obedient, humble servant,
John Willis.

Oxford, May 19th, 1831.

We hereby certify, that we were this day, called on to count the bunches of grapes that are on the vine in John Willis's yard, and we have counted them as well as we could, but have made allowances and thrown in many for good count, and have counted twenty-five thousand, one hundred and ten bunches, one-third or nearly half of them are double bunches and only counted as single bunches. The vine is commencing in its seventh year's growth, as he says, and the stem is only from nine to ten inches in circumference.

Charles M. Bromwell.
his
Richard ⨯ Gossage.
mark

Agricultural Essay, No. 3, by F. A. Ismar, will appear next week.

Premium Essays.—The time limited for the reception of Essays for premiums is at hand, and we regret to say, that we have not received as many as was expected. Should any of our friends have prepared articles, we hope they will send them in.

Prices Current in New York, May 21.

Beeswax, yellow 22 a 23. *Cotton*, New Orleans .10 a .12; Upland, .8½ a .10½; Alabama, .8½ a 12. *Cotton Bagging*, Hemp, yd. 18 a 20; Flax 12½ a 16; *Flax*, American, 7 a 8.—-*Flaxseed*. 7 bush. clean ,—— a .—— *Flour*, N. York, bbl. 5.50 a 5.75; Canal, 5.75 a 6.12; Balt. Hwd.st. 6.12 a —-; Rh'd. city mills —— a —— country, 5.75 a 5.87; Alexand'a, 5.75 a 5.87; Fredericksburg 5.75 a ——; Petersg 5.75 a ——; Rye Flour, 3.75 a 3.87; Indian Meal, per bbl. — a 3 75; per hhd. 17.75 a 18.00 *Grain*, Wheat, North, 1.25 a —-; Vir. 1.18 a 1.25; Rye, North, 78 a 80; Corn, Yel. Nor. 74 a 75; Barley, — a —; Oats, South and North, .37 a .38; Peas, white, dry, 7 bu. 5. Beans, 7 bu. 7.00 a 8.00. *Provisions*, Beef, mess 8.50 a 9.25; prime 5.50 a 6.25; cargo 4.62½ a 5.00; Lard, 7½. a .9; Pork, mess, bbl. 14.00 a 15.00; prime 10.50 a 11.25.

HARVEST TOOLS.

SINCLAIR & MOORE, *Pratt Street Wharf*,

OFFER for sale a large stock of GRAIN CRADLES, with best quality Scythes attached. GRASS SCYTHES and SNEADS ready hung for use, also GRAIN and GRASS SCYTHES separate from the Sneads, English and American Sickles.

80 dozen steel Hay, Grain and Manure Forks, a complete assortment.

40 dozen Rakes of a good quality, Whet Stones by the box or retail, Emory Rifles or Rubbers for Scythes. Also a full supply of their IMPROVED WHEAT FANS and PLOUGHS, Cultivators and other Agricultural Implements as usual.

HAY AND MANURE FORKS.

IN STORE, Hay and Manure FORKS, at wholesale and retail, manufactured by Samuel Boyd & Co. Also, a general assortment of Implements of Husbandry, on hand as usual.
J. S. EASTMAN,
No. 36 west Pratt-street.

N. B. Wanted immediately, 20 cords of prime white Oak Butts for Plough Timber, six feet long, from 10 to 16 inches diameter at the small end, for which I will pay ten dollars per cord. J. S. E.

WOOL WAREHOUSE.

LYMAN REED,

Commission Merchant, No. 195 *Baltimore street*,

Devotes particular attention to the sale of WOOL. Any consignments of the article forwarded to him for sale, can be disposed of immediately for CASH, at the highest market price.

CASH, and a fair price, will be paid for a few thousand pounds of *good wool*, (if offered immediately,) to supply orders now on hand.

Refer to Messrs. Cobb, Wyman & Co. Baltimore.

CASH FOR WOOL.

The subscriber is in this market as a purchaser of wool for eastern manufacturers, and will pay cash and fair market prices for every description of American wool.
RICH'D MESSITER,
No. 5 Light street wharf, up stairs.
May 20. 2 m.

GARDEN SEEDS of every description, warranted genuine, constantly for sale by Gideon B. Smith, office of the American Farmer.

BALTIMORE PRICES CURRENT.

Baltimore Market.--There has beed a further decline in the price of flour; the wagon price yesterday was $5. Some few sales of Howard street have been made at $5.18, a 5.25, &c. Some dealers continue to hold on for better prices. There is little of any change in the prices of grain. Beef on the hoof has become very scarce, and for the last lot we have heard of $7.50 was paid. Good beef would unquestionably pay well if brought to market at this time.

Tobacco.--Seconds, as in quality, 3.00 a 5.00; do. ground leaf, 5.00 a 9.00.—-Crop, common, 3.50 a 4.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 10.00; yellow and red, 8.00 a 14.00; yellow, 14 00 a 16.00.—Fine yellow, 16.00 a 20.00.–Virginia, 4.00. a 5.00.—Rappahannock, 3.00 a 4.00——Kentucky, 3.50 a 8.00. The inspections of the week comprise 373 hhds. Md.; 39 hhds. Ohio; 5 hhds. Kentucky; and 2 hhds. Pennsylvania;—total 419 hhds.

Flour—best white wheat family, $6.50 *a* 7.00—super. Howard-st. 5.12½ *a* 5.25; city mills, 5.00 a —; Susq. 5.00 *a* ——; Corn Meal, bbl. 2.25; Grain, Md. red wheat, 90 *a* 1.18; white do. 1.20 *a* 1.30, Susq. 1.16 *a* 1.18-Corn, white, 68 *a* —-yellow 68 *a* —-Rye, 65 *a* 70. Oats, .33 *a* 34. Beans, 75 *a* 80--Peas, 65 *a* 70—Cloverseed —— *a* ——Timothy, 2.00 *a* 2.50--Orchard Grass —— *a* ——-Tall Meadow Oat Grass 2.75--Herd's, 50 *a* 75--—Lucerne 30 *a* 37½ lb.—Barley, 62½—-Flaxseed 1.25 *a* ——Cotton, Va. 9 *a* 9½——Louisiana 11 *a* 11½—Alab. 9½ *a*. 11—-Tenn.. 9 *a*. 10——N. Car.. 9 *a* .9½——Upland 9 *a* 9¼——Whiskey, hhds 1st p. — *a* 31--; in bbls 32½ *a* 33—Wool, common, unwashed. lb. 30 *a* .35——washed, .40 *a* .45–crossed, .32 *a* .37--three-quarter, .42 *a* .48--full do. .40 *a* .48, accord'g to qual.–Hemp Russia ton, $255 *a* ——; Country, dew-rotted, 7. *a* 7½c. lb.–water-rotted, 7½ *a* 8c.–Feathers,— *a* 33–Plaster Paris, per ton, 3.75 *a* —-, ground, 1.37½ *a* —- bbl.—-Iron, gray pig for foundries per ton 33.00 *a* ——; high pig, for forges, per ton, 28.00 *a* 30.00; bar, Sus., per ton, 80.00 a 90.00.—Prime Beef on the hoof, 7.00 *a* 7.50—Oak wood, 3.00 *a* 3.25--Hickory, 4.50 *a* 4.75—Pine 2.00 *a* 2.50.

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3. When once sent to a subscriber, the paper will not be discontinued without his special order; and then not till the end of the year of his subscription that shall be current at the time of receiving such order.
4. The risk of mail in the transportation of both the paper, and of bank notes sent in payment for it, is assumed by the publishers.
5. Advertisements connected with any of the subjects of the American Farmer, inserted *once*, (seldom more) at one dollar per square.
6. All letters concerning this paper must be directed to the publishers. They must be free of postage, except communications intended for publication, and letters containing money.

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AGRICULTURE.

ESSAYS ON AGRICULTURE,

BY F. A. ISMAR.

No. III.

In my first number I have spoken of dung-means, and shall here endeavour to show how they are to be applied.

Lime has an admirable effect on heavy, humid, and hard clay grounds, acid meadows, &c. The best proceeding with it seems to be the following: to one part of lime, add seven parts of earth, lay them in strata, and pyramidally over each other; cover them with sods, and let it ferment a few days in this state, which is forwarded, by soaking them sometimes with dung-ley. After two to four months it is the best dung, and is strewed previous to sowing over the fields, or over the young grass of meadows, a short time previously to an expected rain. The advantageous consequences show themselves in a short time with most of the crops, f. i. wheat, rye, barley, oats, turnips, clover, peas, beans, &c. Bad meadows receive a new life, when broken up in the fall, ploughed in crosses, strewed with this mixture, and then harrowed. Soon all weeds disappear with the hordes of insects, and the soil obtains a new force and fertility for artificial meadows.

The essential parts of *marl* are clay and lime; it boils up with acids and dissolves in them now to the moiety, then to the fourth or sixth part. It forms a loose earth, and is easily pulverized with the fingers. Exposed to air it falls soon into powder, its ordinary color is bluish grey. The yellow, brown, and red marl has too much iron, which diminishes its good qualities. It is found every where under the soil at some fathoms depth, but most in swampy countries, on the banks of rivers, and in declivitous fields. The clay marl is best on hot, limy and sandy soils; the sand marl for humid land. Its effects last many, often from six to ten years, and more powerfully at the latter than in the former two years. Ordinarily it is strewed pure, and not too thick over the young green plants. Sandy or gravelly land covered with marl is most fit for good artificial meadows. A good marl compost is prepared with ten parts of marl, one of lime, and five of dung: the first stratum is marl, the second lime, the third marl again, then dung, and finally marl; which are often soaked with ley, and thus after three months give a recommendable manure. In order to make it fit to uphold its good qualities for agriculture, burning is the best, as with limestone. Not requiring a strong heat, all kind of wood, small fagots and straw can be used in the open fields. In adding wood ashes it gains still more. This burnt marl mixed with earth sods, potato vines, bean haulm, dirt of the streets, ashes, &c. gives after a fermentation in two months a good manure, which is of great service to turnips, potatoes, &c. But the *misuse* of marl is to be avoided, i. e. year after year, during a long series, marl should not be brought on the fields; the first crops are in such cases very rich, the latter very poor, because none of the powers of the soil exhausted by the plants are replaced by other matters. Marl should only be used every sixth year on the same field, and betwixt those periods should be mingled with other manure.

The plaster, an earthy middle salt, consisting of sulphuric acid and lime is difficult to dissolve in water, and has no taste. Its color is white, grey, bluish, yellowish, and blackish; now in fasers, then in scales, or in grains or regular. It is used pulverized, and incredibly favourable to the vegetation, particularly of clover, peas, and herbs. It is best to strew on an acre as much plaster, as is generally sown of oats; calm evenings are to be chosen for that purpose, in order that the plaster may keep itself to the surface. Burnt, it loses indeed a fifth of its weight, but it becomes more powerful and is therefore more fit for heavy soils. In light ones, contrarily, it is best used unburnt. The plaster powder is to be strewed on the ploughed land previous to the sowing. The harvest of wheat, Indian corn, rye, oats, linseed, buckwheat, &c. become remarkable by it. The effects of plaster are increased by a mixture, f. i. of three parts of plaster, with three of soot, and ten of wood ashes; after a fomentation of two months and a frequent soaking with dung-ley. The best use of plaster is nevertheless to throw it in the ley reservoir and to soak the seeds in it. Chalk, being but a porous limestone, bears almost the same treatment as the latter. Ground, it makes the soil firmer and more cohesive, and is useful wherever the soil possesses not too much chalk already. The powder is strewed over the pasture herbs, and used like the marl with the various kinds of grain. The burned chalk is still more advantageous on loamy soils. One part of chalk with four of dung, and fifteen of swamp dirt, placed in strata in the indicated succession are an excellent compost. Salt has been recognized in latter times one of the best dung-means; but it must be applied in just quantity. In salt fabrics in Europe a peculiar dung-salt is prepared, whose prominent qualities are, to keep the plants very healthy, and the soil clean from weeds and vermin; to render the plants less sensible to the change of climate, and to ripen them three or four weeks sooner than ordinarily is the case. Salt is said to have principally the quality of keeping the moisture longer in the soil; an object of high importance for sandy soils. To this end it should come into the earth early in the spring. The harvest becomes richer by it at least for the third part, if not for the moiety. In gardens and fruit plantations its utility is equally great. In Germany, I saw the following rule most generally admitted; to strew equally on a journeyman's work for wheat and rye, after having been harrowed, from 8 to 1200 lbs. in loam soil, from 10 to 1500 lbs. in lime or sandy ground; for barley, oats, peas, and beans, the moiety of that quantum, in January and February; for turnips and all succulent plants the same at the same time; for meadows 500 to 800 lbs. in the fall and not later than November; for potatoes if not manured 500 to 1000 lbs. in January or February; but if used only when planted, it must be done when the plants are already up; for hops 1500 to 2000 lbs. in November or December; for teint plants as for summer grains. All these quantities of salt are only necessary in the first year; with every succeeding year they must be lessened to a third part of it. The panstore, also a produce of the salt fabrics, is moulded and used like the salt. The ashes of salt is used also for field and garden plants. Six parts of this ashes, with twenty-five of vegetable earth, and five of lime give a very good compost. Nitre, and ashes of nitre, can only be used when dissolved or mingled with ley of ashes, soot, and vegetable earth, f. i. 6 lbs. rough nitre, 20 lbs. of soot, and 12 buckets of ley, boiled in a big pot during thirty minutes and continually stirred; thus soaked on the cord of vegetable earth, placed in hills, and after a fortnight strewed on the land. The ashes of saltpetre is a mixture of earth and leached wood ashes. The earth is taken from sheep stables and other places where nitre is produced. It is examined by aquafortis, which determines its quality after the quantity of dissoluble parts, which must be at least 30 p. c. It proves of beneficial influence in connexion with other substances, principally vegetable earth, when strewed on the ground.

In heavy and tenacious soils the ashes of wood are of great utility, also on bad and sour meadows It destroys likewise mosses, and all obnoxious plants. The drier the ashes, the more powerful it is. Each agriculturist should be very attentive to it, burn all obnoxious or useless wood, plants, &c. and use the ashes. Previous to a rain it is strewed over meadows, clover and pasture lands. On grain fields it is in dry weather brought on the rows of the ploughed land and harrowed in previous to sowing.

Pot ashes is still more effectual; but its high value allows of its use only in connexion with other dung-means, f. i. 6 lbs. of pot ashes, 20 lbs. of salt, boiled in 12 buckets of ley and soaked over two or three cords of vegetable earth. Bleachers should therefore not neglect pot ashes; but boil the ley, mingle it with vegetable earth and procure in this way a valuable manure. The ley of soap houses and pot-ash manufactories are almost of the same qualities. Mingled with two parts of dung, and ten of earth, often stirred, and after a rain strewed on fields or seeds is the best, principally for a loamy soil or sour meadows. The ashes of tobacco does the same service, and destroys undoubtedly all vermin, also the ants, which are so injurious to trees.

The ashes of turf, anthracite coal, and charcoal, are very useful, but must be well distinguished from the ashes of limestone and bricks. The former is only applicable on a sour loam ground and cold sods; the other on grounds of the contrary properties. Charcoal is an eminent dung-means, if not too dear, in vineyards, mustard, and tobacco fields, &c. Burnt clay, mingled with some ashes of lime, turf, or marl ameliorates, loosens, dries and fertilizes a deep and heavy loam ground. The effect of burned clay increases in proportion as the soil is more swampy, cold, and sour. It is strewed on seeds and meadows, or harrowed in with the seeds after ploughing. Its advantages are the most obvious on grain, linseed, potatoes, and turnip fields. It is burned like limestone, but with a less fire. All kinds of shells consist greatly of lime, and are of the greatest use, as I have already indicated. Often they are found already in a state of decomposition, and are then very useful.

Each good agriculturist should at first examine his ground, whether it is composed of lime, clay or sand. By attention to this he will soon discover that by mingling the various kinds, f. i. clay with lime or sand, he may greatly improve his soil. In this respect the opposed kind of earth strewed on the ground, is always of great advantage; for the vegetable earth has continually much of the principal earth, f. i. on a limy soil the vegetable earth contains always lime, and an addition of that matter would be as injurious as clay or loam would be obvious. To put new vegetable earth on the fields is still the best, and an industrious farmer fears not the fatigue of seeking it in the forest.

Each composition of various dung matters, and dung-means, is really a compost dung. In earlier periods it was called a dung magazine, where every thing was collected on one spot in order to putrify there. Now there is more care in this respect in different countries; for only such things are collected on one hill which best mingle and ferment together, and which, as experience proves, give the best dung. A general compost hill is now a hill of lime, mortar, remains of plants, ley, ashes, and some vegetable earth, sometimes turned and often soaked with ley. In two or three months the best dung is always obtained, and this compost is therefore an excellent dung-powder for all fields and seeds. All the artificial composition, known as dung arcana, dung-salts, dung-powders, &c. have already lost all consideration in the eyes of reasonable farmers, who understand perfectly well to prepare themselves the best kinds of manure and dung-powders.

In my next I intend to conclude my essays on manure, by examining some articles not yet mentioned. and making some observations on lime, and the manner of using manure.

CURRYING COWS.

Cows should be curried as often as horses, particularly when they are shedding their hair. Independent of other consequences, it tends to prevent them from licking themselves, by which means they too often swallow the hair, and receive injury.—*N. Y. Farmer.*

(From the Southern Agriculturist.)

On the Culture of Corn, Sweet Potatoes and Oats, and the Management of Cattle; by A Rice Planter.

“*Cooper River, January* 25, 1831.

Dear Sir,—In compliance with your request, that I should give you some account of the manner in which I cultivate my provision crop, and the management of my cattle, I will now endeavour to do so, by merely giving you a plain matter-of-fact statement of what has been my practice for ten or twelve years past, and the result of it, and if you should be of opinion that any portion is of sufficient importance to occupy a place in your useful journal, you are at liberty to select any part you please.

I plant provisions altogether upon high land, it is, however, all contiguous to my rice land; a portion of it is a red or yellow clay, but the greater part a light sandy soil, *all* of it was exceedingly poor and sterile, when I turned my attention to it. It was impossible at that time, to get from it more than six or eight bushels of corn per acre, potatoes, peas, and oats in proportion. The previous plan had been to change the fields every two or three years, and little or no manure was used. I inclosed only so much as was necessary to be planted—say an acre and a half to each hand. As the treatment of the clay differs so much from the sandy land, I will give you both in detail, doubting exceedingly, whether your patience will be sufficient to enable you to find the end of the chapter.

Early in the winter, the rice stubble was hoed off in the fields adjoining the clay land, and was carried out and spread in proportion of about an acre and a half of stubble to an acre of clay land. The plough (Davis') then turned it in deep In March, all the winnowing from the rice crop was spread over the same field, and the plough again turned it in, but very shallow. In June, this field was planted in slips upon large beds five feet apart, the season was favourable, and the yield was far beyond my expectation. The same course was adopted the second year, with the exception that the winnowing was put upon the field the first of February, and immediately oats were planted in drills, fifteen inches apart, and two bushels of seed to the acre—a good crop was produced. In June, the oat stubble was listed in, and slips planted as before, the production was far better than the year preceding, and the quantity nearly double what it was before this mode was adopted. I have continued the same method ever since, and the land which was at first considered not worth planting, is now an excellent soil, yielding abundant crops, and from being stiff and unmanageable, is now completely loose and arable. Not having the means of saving my rice chaff, I have not, to any extent, used it as manure, but I am satisfied that, for *clay* land, it would be preferable to the winnowing. I must here observe, that two acres of this field have been regularly planted in Guinea corn until last year, when they were planted in slips, and there was scarcely any difference in their production and that of any other part of the field. The two acres planted in Guinea corn were never manured with stubble or winnowing *after* the first year. The corn was planted in April, pretty thick, on beds five feet apart, and in the fall, before a frost, the stalks were cut down, and listed in the alleys, five or six inches deep. I have mentioned this circumstance that you may see how valuable the Guinea cornstalks and blades are as manure on *clay* lands.

Upon the sandy land, I plant corn, root-potatoes, peas, and oats. The old plan was, to plant the corn in hills, five feet apart each way, and two stalks left to each hill; the plough was used in both directions, or rather, it was ploughed and cross ploughed. The cornstalks were burnt in winter, and the only manure used was what came from the stable, and that was put into the corn hills before planting, but it was never enough to go over half the field.

For ten years, my mode has been the following:—early in the winter, the cornstalks are pulled up, and put in the alleys, the pea vines, grass, &c. are all listed in—a portion of rice straw is carried out daily, and spread over the corn land, until it has been done all over the field—the cattle are allowed to feed on it every day. In the spring, the cattle are removed, and the well-rotted manure from the stable and farm-pen is now carted out, and an equal quantity put to each task, or half acre, in three or four heaps, for the convenience of putting it to the corn, when top-dressed. The straw left by the cattle, is bedded in upon the list; the beds are made wide and flat, but not high. I seldom plant corn before the first of May; the beds are five feet apart, and the corn planted two feet and a half apart on the bed; the plough is used as soon as the corn is all well up, putting four or five furrows. Stirring the ground at this time is very beneficial in keeping off the cut-worm. When the corn has four or five leaves, it is thinned, and only one stalk left to a hole; at this time the rotten manure is put around the corn, and touching it; the earth is hauled up with the hoe, making a pretty large bed. The plough is frequently used, making as many furrows as will break up the alleys thoroughly—peas are planted on the middle of the bed, between the corn, as soon as it is large enough. Pursuing this plan, I generally average from eighteen to twenty bushels to the acre, and an abundant crop of peas; no great yield to be sure, but certainly triple the production made by the old plan.

Root-potatoes and oats.—I keep two lots, about twelve acres each, which are alternately planted, in root-potatoes and oats:—for instance, the lot on which potatoes were planted in 1820, was, in January, 1821, planted in oats, in the usual manner—the oats are cut in May, before they are quite ripe, to prevent their shelling. These oats are not threshed, but housed in the straw, to be used for horses and mules, after they have been cut up in one of Messrs. Sinclair & Moore's straw cutters, (certainly the best I have ever seen,)—as soon as the oats are taken off, the stubble is ploughed in, and the cattle are penned every night upon it, moving the pens every two or three weeks, taking care to turn in the manure with the plough whenever the pen is moved. In this way the whole lot is well manured, before the cattle are put into the farm-pen in winter. This lot remains fallow, till the month of March, when it is broken up by the plough. About the first of April, the beds are made up, in *wet weather;* they are five feet apart, very large, and pretty high; the potatoes are immediately planted, *while the ground is wet;* the seed is all planted whole, and about ten inches apart. To make a full crop of root-potatoes, it is indispensably necessary to keep the field perfectly clean from grass—the plough and hoe are therefore frequently used,—no crop suffers so much from grass as the potatoe. I never permit more vines to be cut than what is absolutely necessary to plant the slip crop; the production will be much lessened if the vines are cut, for as long as you continue to cut the vines, the growth will be above ground instead of below. Many persons cut the vines all summer to feed hogs and other stock, whereby the potatoes are much injured. In this manner both lots are kept in good condition, and generally yield very full crops of potatoes and oats alternately.

Respecting the management of my cattle, I must say, that until within a few years, they have been very much neglected, but by attending to the following system, I have found the stock increase very much, both in number and size, and I am satisfied, that notwithstanding the range about me is very inferior, they will be very profitable within a few years, independently of their great value in manuring the fields.

Early in the fall, I select six cows, which are regularly stalled, and well fed, until May; for these I have a rye lot upon which they graze a few hours every day. They afford a sufficient supply of milk and butter for a large family, while the calves become very fine. As stated before, the stock of cattle feed upon the straw or the corn-fields all the winter; they are, however, put into the farm-pen at night. From May till November, they are penned every night upon the oat land. The calves are parted only at night, and go all day into the woods with the cows; it is important to have the cows milked, and turned into the woods *early* in the morning. To milk late, part the calves during the day, and keep them in a small, hot pasture, is the most effectual mode to injure stock. The calves will not feed when apart from the cows, and the cows hang about the pasture fence and do not go sufficiently distant to get on the best range. I am so perfectly convinced of the advantage of milking only a few cows that are stabled and fed well, that I shall hereafter adopt it in summer as well as in winter, and never separate the calves of the general stock from the cows. I have done so in a few instances, and the calves have always sold for eight dollars. Oxen that are worked should be housed, and well fed—they will improve, although worked every day, and will be in better condition than those that are out, and never worked. I frequently give my cattle salt.

You will perceive, sir, that I have not only given you a prolix account of *my* mode of managing the provision crop, but the mode previously pursued—I thought it best to do so, although it makes a long story of it, that you might see wherein I differ from the old system, by following which we seldom bought less than five months provisions; and by the present mode I seldom buy a bushel, and support a much larger stock than formerly. In speaking of Guinea corn, I forgot to say, that I found it very productive on the clay land, and a most excellent and nutritious food, not only for stock and poultry, but for negroes.

I consider it equally important in a provision, as in a rice field, to have the low, sobbed places well drained.

I sincerely hope, that your efforts to promote the agricultural interests of our native state, may be amply rewarded.

Yours, &c. A Rice Planter.

ON REAPING WHEAT.

To the Editor of the Virginia Herald:

Sir,—As the time of harvest is approaching, I address, through your paper, my brother farmers, on the importance of allowing wheat intended for sowing, to be entirely ripe before reaping. Accident last year, and eye-sight this year, have convinced me of the propriety of this course.

In the year 1829, having selected by hand some ears of Mexican wheat, and sowed it in the fall of the same year, it was forgotten last year, until my little son reminded me that it ought to be gathered. It was then from seven to ten days after my other wheat of the same kind had been cut.—This wheat was then gathered and deposited in a bag. Last October, this wheat was seeded on the same day, in the same manner and adjoining to other Mexican wheat. No selection of land was made for it, as no experiment was intended. It has survived the fly, and the last severe winter with little injury, but not more than one third of the adjoining wheat has been left alive. From its present appearance, it will produce, I believe, two thirds more than its adjacent neighbour.

Can the keeping in the bag, be the cause of this superiority? I believe not, because in several previous years, seed wheat has been kept by me in bags, and no similar result has taken place; my inference thence, is, that this difference must be owing to the entire ripeness of the seed. Should any reader of this communication have doubts on this subject, it would give me great pleasure to shew them the growing wheat, which will convince, I should think, the most sceptical.

From my twenty-four years experience as a farmer, I am also satisfied, that the smut is mainly attributable to unripe seed wheat. My seed wheat has been always riper than that of my neighbours, and during that period, I have never seen but six smutted heads in my own crops. In a conversation with the late Mr. Isaac Williams, he confirmed my opinion, by stating to me the same practice of one of his nearest neighbours, attended by the most entire success.

In making this communication, the interest of wheat-growers is my sole object, and if, by it, their crops should be increased, it will contribute to the happiness of your obedient servant,

Liberty Hill, Caroline. JOHN TAYLOR.

HORTICULTURE.

(From Blackwood's Magazine for April.)

SIR HENRY STEUART'S THEORY OF TRANSPLANTATIONS.

(Continued from page 85.)

Having thus, day after day, planted out all "old familiar faces," nothing will satisfy him but to open up; and down go temples and towers that never can be rebuilt—trees old as sin, stately as satan, beautiful as virtue, and reverend as religion. The river robbed of all the magnificence with which imagination blackened and whitened it, as it moved unseen through the woods—unseen, but in one bright bend here—one sullen stretch there—one deadened cataract streaming and gleaming yonder through its oak-canopy, now rolls on disenchanted through the light of common day; and you may see ladies, and ladies' maids, with green parasols, hunting butterflies all by themselves, or flirting with dragoon officers, and under-graduates from Oxford. That mile-long elm avenue—a cathedral in which a hundred thousand penitentials might have prayed—is swept away in the reformation, and you now approach the modern mansion, (for the old hall is down or deserted,) circuitously, after the fashion of one of the representatives of the people making a speech in parliament, who prefers taking two hours to reach a conclusion at which he might have arrived by driving on straight forward, in about five minutes and a half, going at the accelerated but not unreasonable rate of eight miles an hour. Perhaps an old kirk, or church be it—the very parish one—is found to be too near the house; for, though faint, and far off, still when the atmosphere is clear, and the wind west, you can hear the voice of psalms; and therefore that the silence of Sabbath may not be rudely disturbed, the kirk or church, with spire or tower, is swept away, and its burial ground, so inoffensive with its "low memorials still erected nigh," shut up—but no—that may not be—for the poor parishioners will insist on laying their bones beside those of their forefathers; and surely a few funerals in the year—say a score at the most—need not spoil the rich man's appetite for dinner—if appetite he otherwise would have had; nor may the holy bell that used to toll to prayer now be heard with its little cracked tinkling, so much louder is the gong that summons to lunch or tiffin, and sets the flunkies afloat through all the stair-cases from parlor to pantry, from Moll, the poeny-rose of the kitchen, to Louisa, the white lily of the drawing-room, languishing and luxury being alike the order of the day, from cellar to garret; for in high life, both above and below stairs.

"Love is Heaven, and Heaven is Love."

Let all people, then, beware of dealers in the picturesque; for they are universally greedy, and generally ignorant, and may do more harm in a week, than nature can repair in a year. Get some painter of genius, like Andrew Wilson, or William Allan, or John Watson Gordon, or Hugh Williams, or Alexander Nasmyth, or Mr. Thomson of Duddingstone, to come sauntering out with his portfolio, and take up his abode for a few days in your friendly house, strolling about with you during the forenoons among the banks and braes, and beautifying the paper during the evenings with fair creations of taste and fancy, prophetic of the future beauties and glories that shall ere long be overshading your estate. They will not scare the Naiads, the Dryads, and the Hamadryads, from their old haunted nooks—the fairies will not fly their approach, any more than the rooks and herons—in every pool and tarn, nature will behold herself not only in undiminished but in heightened charms—Flora will walk hand in hand with Pomona, and the two together will smile sweetly on old father Pan, roaming in all his original hairiness in the forests. And haply you may have among your friends some poet.

> "Who murmurs near the hidden brooks
> A music sweeter than their own;

Him you may consult, at close of his noontide reverie, and from his sown words will spring up all varieties of grace, loveliness, and majesty, till every woodland murmur breathes of poetry, and poetry brightens from the heaven of every tree and cloud-shadowed water, asleep within the silence of the solitary woods.

Of the multitude of thoughts within us, we know not one more cheering than the belief, that the world is, and ever must be, in a state of very great ignorance about all those things that are of most avail to human use or pleasure.—There is a perpetual flux and reflux—ebb and flow of all things on the face of this our pleasant earth. Look up to the hill-side, and you see the water-line of beauty, parallel to that on the opposite green range, telling that long ago a loch filled the valley, till it burst the mound that confined it, and away it flowed on, in a river, to the sea. Look on those ruins, apparently of houses—inland now, it may be said—yet shells are to be gathered still round the garden wall, touched in the olden time by the foot of the flowing Neptune. Or look into that lucid bay, and you will see the roofs and chimney tops of what once were cottages—cottages that stood at night on the shore, twinkling like stars; while on the silvery sands between them and the sea the fishermen dried their nets. All this is at once melancholy and consoling, to be thought of alternately with a smile and a tear. Then for the march of intellect, it is fortunately often retrograde; for, if it were not, intellect would march on to the utmost possible length of its tether—break the tether, and fall over "the back of beyond." But intellect has more sense; and, therefore, may be often seen suddenly ordering the whole army to halt, light and heavy brigades alike—going into winter quarters—encamping on the spot, or perhaps falling back upon the wagons and commissariat.—Thus it is impossible that the grand campaign can ever come to an end till the stars slacken in their courses, and the sun is kicked out of that solar system of his, where he is seen "out shining like a visible God, the path on which he trode," kicked out of his own solar system, just like a foot-ball.

Thus, to return to trees. Trees have been planted for these six thousand years and upwards, and yet were some forester who planted, long before the christian era, the palm-trees by the wells of Palestine—or the cedars from Lebanon along the banks of the brook Kidron—to open his eyes to a perusal of Monteath's Forest Guide, we do not believe that the good old Jew would think the Galwegian a wit wiser than himself—or that he would even think Sir Walter had worked a miracle in that famous article of his on planting, No. 72, of that thriving journal, the Quarterly Review. Though we think we can point out a few rather important mistakes in the moral wisdom of Solomon, yet we perfectly agree with him in his apothegm, "that there is nothing new under the sun." That Solomon knew both the theory and practice of transplanting old trees, we are not without good reason for believing; though at the same time could we suppose him, by a bold anachronism, to have visited Allanton along with the committee of the Highland Society, to see and report on the wonders wrought there by Sir Henry Steuart, Bart., we have no doubt that he would have lifted up his hands in no little astonishment, and confessed, that in all his transplantings, from the cedar on Lebanon to the hyssop on the wall, he had never beheld such a sudden and fairy enchantment not even raised by his own magical ring that built Balbeck and Syrian Tadmor in the desert, as that now overshading that park and its own swan frequented loch.

Sir Henry will pardon this somewhat rambling and off-hand oxordium—but we come now to his book, which is a truly delightful one, both in style and subject. Sir Henry is an admirable classical scholar, and writes with great perspicuity, eloquence, and animation. He is also, in the department of nature he has here chosen to illustrate a man of science. He has proceeded, in all his practice, on principles: and the explanation he has given in this volume of those principles, entitles him to a high rank among those writers, as yet too few, who have brought a knowledge of physiology to the advancement of arboriculture.

In the two first sections of his work, he descants very eloquently on the utility and importance of arboriculture, and of the art of giving immediate effect to wood, and learnedly traces the history of the art, from the earliest down to the present times—from the days of Theophrastus, Cato, Varro, and Columella, to those of Pliny and the younger Seneca, instituting a comparison between the Greek and Roman methods. Then from the period of the art in the 17th century, when Count Maurice, of Nassau achieved such wonders in his splendid gardens in Brazil, and Louis XIV. carried on his gigantic operations at Versailles, and the Bois de Boulogne, while the art was cultivated in England by Evelyn, Wize and lord Fitzharding. An account is then given of the invention of his transplanting machine, by that once overrated, and now underrated genius, Brown. The introduction of landscape-gardening into Scotland and Ireland is then described, and its progress under White, Robertson, Hayes and Boutcher, &c. Praise, with certain judicious qualifications, is then given to Marshall, whom Sir Henry calls "the best English planter of that day," and he passes some severe strictures on the lighting and lopping system as dessecrated by the ingenious Miller. From his time to the present day, the art, in all countries too vague, and seldom considered on fixed principles, has been stationary; and Sir Henry hopes, and after what he has achieved, we think not presumptuously, that it may now be said to be not only restored, but established on the laws of nature.

With all due admiration of Sir Henry's theory and practice, we cannot think that his predecessors in the art of transplanting were all so imperfectly acquainted with the laws of nature as he seems to suppose, or that they all went to work in comparative ignorance or contempt of the spirit in which she performs her wonderful processes. On the contrary, we do not doubt that all great and good transplanters—and that there have been many such, he himself shows by beautiful descriptions of some of their achievements—knew much of the true principles of transplanting; and that his own merit chiefly consists in having formed a system, in which all their excellencies have been united, and from which all their errors have been excluded; while unquestionably his own sagacity and experience have supplied something new to finish and complete his theory. This, if true, so far from detracting from his merit, is a proof and a pledge of it; for discoveries at this day of the world, laying claim to perfect originality, are on that very account of a suspicious character; and we confess that we have all along felt this book to be a most delightful one, because in every paragraph the process described appears so natural as almost to be self-evidently right—nothing startling or very recondite, puzzles, perplexes, or appals—and we are assured, from what we have ourselves already known or done, that we have been only more fully enlightened on a subject not unfamiliar to us, by a person who has studied it more earnestly and profoundly, and from the very first brought to that study a clear head, habits of close and accurate observation, and much of that enthusiasm without which no mind ever yet saw far or clearly into the laws of nature, or gained from that knowledge power to assist her operations. What knowledge of the true principles of transplanting must not have been possessed by those who worked the wonders so finely described in the following passage?

"Among the earliest and most successful planters, on a great scale, was Count Maurice of Nassau, who figured as governor of Brazil in 1636, when that settlement was in the hands of the Dutch. This prince was a man of taste and elegance, for the age in which he lived; and he adorned his palace and gardens there, with a magnificence worthy of the Satraps of the east. Gaspar Barlæus, one of the best poets of his time, is the historian of the expedition; and he has given the narrative in a style, that. on some occasions, will bear a comparision with the delineations of Livy, or Tacitus.

"The governor's residence was upon an island, formed by the confluence of two rivers, which are called, by Barlæus, the Capevaribis, and the Biberibis, and was named Friburg. Before the prince commenced his improvements, as the historian informs us, it was a very hopeless subject; a dreary waste, and uncultivated plain, without a tree or bush to shelter it; and, in a word, equally worthless and unattractive.—Here, notwithstanding, he erected a splendid palace, and laid out gardens around it, of extraordinary extent and magnificence. In the arrangement of the buildings, salubrity, tranquility, and horticultural ornament, were all studiously and tastefully combined. The choicest fruits of a tropical climate, the orange, the citron, the ananas, with many others unknown to us, solicited at once the sight, the smell, and the taste; while artificial fountains of water, preserving the coolness of the air, and the verdure of the earth, rendered it a spot of peculiar attraction. In laying out the grounds also, such was the designer's skill, and the magnificent scale of the plantations and grass-plats, that no fewer than thirteen bastions and turrets flanked and defended the gardens, and promoted alike seclusion and security. And in order to complete at once, and give the immediate effect of wood to so great a change on the face of nature, he removed, to the spot, no fewer than seven hundred cocoa trees of various sizes, of which some rose to thirty, some to forty. and some to fifty feet high, to the lowermost branches.

"Of the success of the improvement last mentioned, no one, but the prince himself entertained the slightest expectation. Yet such, says Barlæus, was the ingenuity, as well as persevering labor displayed in the work, that the whole was accomplished with the most perfect success. Notwithstanding the immense size of the trees, which were of seventy and eighty years' growth, they were skilfully taken up under the prince's superintendence. They were then placed on carriages provided with wheels, and conveyed over a space of from three to four miles in extent, and ultimately transported on rafts, across both the rivers, to the shores of the island. On being planted there, so favorable were both soil and vegetation in that genial climate, that they immediately struck root, and even bore fruit, during the first year after their removal. Thus, adds, Barlæus, the truth of the ancient adage was for once disproved, which says, that 'it is impossible to transplant an old tree with success.'"

In sections third, fourth, and fifth, Sir Henry gives a full learned, and scientific development of the New Theory, or Principle of the Art, occupying about 120 pages. Section sixth treats of the preparation of the soil, for open dispositions of trees, and close plantations. Section seventh, preparation of trees for removal. Section eighth, taking up and transportation of the trees. Section ninth, planting of the trees in their new situations. Section tenth, treatment of the trees subsequently to removal. Section eleventh, expense attending the foregoing operations. The eleven sections occupy about 350 pages, and there are about 120 pages of explanatory notes, and an appendix. Let Sir Henry speak for himself:—

"To such persons especially, and to all men possessed of landed-property, the immediate effect of wood must appear a considerable object, if any method can be devised to obtain it with success and certainty. What, then, would such persons say, were they informed, that so obscure a practice as that of transplanting could do this; that an *entire park* could be thus *wooded at once*, and forty years of life anticipated? The fact, that the possibility of the improvement, and much more, have been verified, by pretty extensive experience. Groups and single trees have been scattered every where in such a park at pleasure, in all sorts of soils and exposures, and applied to the composition or the improvement of real landscape. Instead of lopping and mutilating the trees, and sometimes altogether decapitating them, (as has been the general practice,) the grand point has been gained of *preserving their tops entire;* so that, with subjects of whatever magnitude, *no loss of either spray or branches is suffered;* and, what is still more important, *no loss of health and vigour in the trees,* excepting for a short period, after having undergone the process of removal.

"But, besides the various combinations and details of the landscape, it has been found also quite practicable to apply the art to the most *general* purposes of utility and shelter, whether in large towns, or in the country, by the transplanting of copses or underwood of any size or species. This is either formed alone into large masses, or it is intermixed with grove or standard trees, as circumstances in either situation may require. By these means, some of the most interesting objects, both agricultural and ornamental, have been accomplished, at *a very moderate expense,* and brought within the reach, not only of the great and opulent, but of any person of limited fortune."

To those who never intend to plant or transplant a tree in their lives, but who nevertheless know a tree when they see it, many parts of the book will be as amusing as the description in a poem or fairy tale. To those who would fain transplant, but know not how to set about it, it will explain how sylvan scenes may be suddenly, and at moderate expense, spread over the barest wild; and to those who love to study the wonderful works and laws of nature for their own sakes, and, in delighted reverence of that power, wonder, and goodness, in which they were all made, a work, of which the object is to show art, availing itself of nature, will afford much of that high kind of gratification which attends the enlargement or elucidation of our knowledge of any of the principles, agencies, or operations, for ever busy in beautifying the face of the external world.

The only real magic lies in understanding and learning something of the laws according to which nature breathes and works. The enchanter's wand is buried many fathoms deep in the sea. But science has unveiled, and art constructed, engines and machines, that do all and more than the enchanters of old. A man would have formerly thought himself witched,—and he would have been right in thinking so,—who, looking out of his bed-room window in the morning, might have beheld a noble tree standing on a plat, which the evening before was altogether objectless; but no one need rub his eyes, or believe himself to be in the Londe of Faery, at such a sight now; for, by the transplanting machine, the tree, long before prepared to leave its native soil, is lifted up with almost all its roots, and with all its branches, and let down into the depth of its new bed, with so little violence done to it in bark, sap, branch, twig, leaf, or fibre of leaf, that it seems, even in the first spring, hardly to have felt the change; and taking kindly to the mould, into which its roots are not slow to strike, the bees discover no difference in the taste of its honey-dew, and the wondering birds, of whom it may be said "*miranturque novos frondes,*" begin to carol, and pair, and build, and breed, among its novel umbrage. There is something extremely pleasing, and, were it of a fictitious scene, it might be said, extremely poetical, in the following description, by Sir Henry, of the park at Allanton:—

"At the place, from which these pages are dated, may be seen a park of limited extent, and possessing no particular claim to beauty, but visited from curiosity by many persons, within the last ten years. It consists of about a hundred and twenty English acres, abundantly clothed with trees and underwood of every common species, by means of the transplanting machine; and exhibiting within itself a *practical illustration* of every principle laid down, and every theory held forth in this essay. The single trees and bushes, in groups and open dispositions, amount to about seven hundred in number, exclusively of close plantations and copsewood. Their size, when removed, is not great, the largest not exceeding from thirty to forty feet in height, and from three, or three and a half, to five feet in girth, at a foot from the ground; but many of them are of much smaller dimensions. The height of the bushes or underwood removed has been from four to ten feet, and consisting of every sort, usually found on the banks of lakes and rivers. But size in an art founded on fixed principles, is a mere matter of choice and expenditure; for trees of the greatest size must be almost as certain and successful in removal, as those of the least. It was desirable, however, as almost every thing was to be done here, in the way of park-wood, to limit the operations to the smallest possible expenditure, consistently with producing some effect on the foreground, and middle distance of the landscape; and with careful execution.

"Whoever will take the trouble to visit the place, will perhaps find his labor repaid, in examining the progress of an art, calculated probably to become as popular as any that has been cultivated within a century; as there is scarcely any one, in which so many persons in the higher and middle ranks are interested.

"Considering the prejudices which exist against the art, and that the great power, of which it is susceptible, will with difficulty gain belief, it may be worth while to state a few facts as to its general application, which are as incontrovertible as they may seem surprising to the reader. It is from no vain desire to exaggerate what has been done at this place, but merely to show the degree of progress, which the art has made, under the greatest disadvantages of soil and climate. It is also for the purpose of proving to those, who may engage in similar undertakings, that, whatever has been done well *here,* may, with equal industry, be done a great deal better, in most other situations.

"There was in this park originally no water, and scarcely a tree or a bush, on the banks and promontories of the present lake and river; for the water partakes of both those characters. During the summer of 1820, the water was executed; and in that and the following year, the grounds immediately adjoining were abundantly covered with wood, by means of the transplanting machine. Groups and single trees, grove and underwood, were introduced, in every style of disposition, which the subject seemed to admit. Where the turf recedes from, or approaches the water, the ground is somewhat bold and irregular, although without striking features of any sort: yet the profusion of wood, scattered over a surface of moderate limits, in every form and variety, gave it an intricacy and an expression, which it never possessed before.

"By the autumn of the *third* year only after the execution, namely 1823, when the committee of the society honored the place with their inspection, the different parts seemed to harmonize with one another, and the intended effects were nearly produced. What it was wished to bring forward appeared already prominent. What was to be concealed, or thrown into the background, began to assume that station. The foreground trees, (the best that could be procured,) placed on the eastern bank above the water, broke it into parts with their spreading branches, and formed combinations which were extremely pleasing. The copse or underwood, which covers an island in the lake, and two promontories, as also an adjoining bank that terminates the distance, was seen coming down nearly to the water's edge. What was the most important of all, both trees and underwood had obtained a full and deep-coloured leaf, and health and vigour were restored to them. In a word, the whole appeared like a spot at least forty years planted."

(From the Southern Agriculturist.)

TO SAVE SEEDS.

All seeds keep better in their seed vessels, but this can rarely be done, on account of the great space occupied. As soon, therefore, as the pods of cabbages, turnips, radishes, &c. turn brown, and a part become dry, the stems should be cut and laid on a cloth or floor to dry, and afterwards thrashed out, and hung up in bags in some open airy place. Lettuces should be pulled up with the roots, as soon as there is the least appearance of maturity, and hung up, and the plants will ripen all of their seeds, nearly at the same time. If left in the garden to ripen, the earliest and best will be lost; in fact, except under very favourable circumstances, very few will be obtained, as every shower and every strong breeze will lessen the quantity, and scatter those which are mature over the whole garden. The same course should be pursued with leeks and onions. It is a prevalent opinion that the bush squash cannot be perpetuated among us, as such have a strong tendency to run, and will in one or two seasons become a vine. This is a mistake, and has originated, no doubt, in the manner of saving the seed. If the first squashes which appear be retained for seed there is no danger of the plant running the next season; but if these be used and those which are borne at the extremities are preserved for this purpose, they will run, and moreover will be later in bearing. To have early fruit of either the squash, cucumber or melon, the very first should be reserved.

(From the Genesee Farmer.)

BOTANY.

To the Editor of the Genesee Farmer:

Observing that a portion of your useful paper is devoted to the language of botany, I take the liberty to make a few remarks.

The *specific character* includes only such features of a plant as are sufficient to distinguish it from every other species of the same genus. The specific character therefore is not a *description* but a *difference*.—Of a genus "where only one species exists, a *differentia specifica* is an absurdity."[*]

It will then appear that where there are only two species of a genus, it is necessary only to mark the points of difference between those two species; and their specific characters therefore cannot agree in any point. So in the genus *Vanguiera*, which has only two species:

V. { *edulis.* Stem unarmed, leaves large, ovate, stalked.
spinosa. Stem spiny, leaves small, nearly sessile.

But where there are three or more species in a genus, the *specific character* of two of those species, may agree in several particulars; but these particulars must *differ* from some other species. Thus in the genus *Borbonia*, which has many species:

B. { *trinervia.* Leaves lanceolate, *three nerved*, entire.
lanceolata. Leaves lanceolate, *many nerved*, entire.

Here by omitting those parts in which the species agree, the student sees at a glance wherein they *differ*. Or, if we take from the same genus

B. { *cordata.* Leaves cordate, many nerved, *entire.*
crenata. Leaves cordate, many nerved, *tooth letted*,

the difference between these two species is equally plain. Again, if we take

B. { *lanceolata.* Leaves *lanceolate*, many nerved, entire.
cordata. Leaves *cordate*, many nerved, entire,

the two species are at once distinguished by their *cordate*, and *lanceolate*, leaves.

It may be observed that the *specific characters* before us, are rendered much clearer by the beautiful simplicity of using *the same terms to express the same things*. Had the language been varied, according to the practice of rhetoricians, the student would scarcely be certain that different words, so near together, could mean the same thing, and his ideas would be vague and indistinct.—Of this bad taste, I select two samples from Eaton's Manual:

Bignonia. { *crucigera.* Leaves conjugate, *cirrase.*
capreolata. Leaves conjugate *bearing tendrils.*[*]

Elymus { *virginicus.*—Spikelets, *in pairs.*
villosus.—Spikelets, *gemminate.*

A *specific character* may also be rendered less perspicuous and less convenient by a confused arrangement of its parts. In the same book, the *specific character* of *Erigeron integrifolium* begins thus: "*Stem* simple," &c. but in *E. compositum* the *stem* is placed in the rear of seventeen words, and is the last thing mentioned. This want of order in the specific characters, occurs in many pages of that valuable work; but I observe with pleasure that exceptionable variations in the language are not numerous. Q.

APHIS, OR PLANT LOUSE.

A small insect which infests almost every species of tree or plant which is cultivated; and in many cases becomes a serious hindrance to the advancement of vegetation and perfection of the fruit—infesting the young and tender branches and the under side of the leaves: without eating or perforating the leaves, they cause them to curl, dry up, and die. By some process they destroy the functions of the leaf, which operate as the lungs do in the animal economy, and cause a saccharine matter to exude, on which they exist; and there is no doubt but their depradations, under some particular circumstances, are the cause of the production of the honey dew. The small black ant is often observed very busy among the leaves infested with Aphides, travelling over and among them with great eagerness and activity, and by some observers it was thought that they preyed upon their young, but later and more accurate observations have shown that they protect and even act as nurses to them, in order that by their operations, they shall cause the production of the sweet exudation of which they are so fond.

Great quantities of flies are also observed about plants and trees infested by the Aphis, and on the same errand; which induces us to think that the Aphis, by its peculiar operations, causes a disease in the leaf whereby an ichor or serum is thrown out, which constitutes not only theirs, but the food of many other insects.

Almost every vegetable has its own particular species of insect, of various description, colours and sizes, on most of which their colours are green—on the cabbage they are white or grey, on the cherry jet black, on tanzy red, &c. &c. They multiply with astonishing rapidity. The males are winged, and the females without wings. The female possesses the property of producing her young alive in a perfect state during summer, and in the autumn of laying eggs for the purpose of continuing the species through the winter; they may be observed at the joints of branches, and on the small limbs. of the size and colour of particles of black sand from the sand box. The male in autumn attaches itself to those leaves which are downy on the under side, where it passes the winter in perfect shape; while the female contracts into a small black globule full of a soft granulated matter, the final issue and destination of which has not as yet been determined.

In green-houses they are destroyed by tobacco smoke, and it has even been applied to out-standing trees and shrubs, by means of tents or coverings of cloth; but from the expense and trouble, cannot in common cases be applied. A decoction of tobacco injected by a syringe, or even by a boy's common squirt-gun with a small aperture, or lime water, or soap suds, are effectual remedies. Tobacco juice is the most efficient—destroying every living thing but man, when properly applied, and doing no injury either to the leaf, root, or body of any vegetable substance. Caterpillars, worms, grubs, nor flies, are proof against it. One sixpenny paper of coarse tobacco will make liquor enough to depopulate a whole territory of these noxious and destructive creatures. [*Ib.*

PEACH GRUB.

Our valuable and intelligent correspondent, Dr. Spafford, in our 17th number, has given the public some valuable facts, justified by his own experience; and his suggestions on the same subject, as they are on all others, are entitled to great consideration.

We have some misgivings, however, on the subject of his application to expel the peach tree grub in all cases; but having no experience with his remedy, we beg leave to give our readers what facts, pro and con, which the subject recals to memory, without referring to any direct authorities on those points.

Sir George McKenzie, a distinguished Scotch horticulturist, gives some very satisfactory results, on anointing the limbs and bodies of trees with oils, to destroy the eggs and pupæ of insects, but cautions against touching the leaf or flower buds, in any case. He further states, that the only trees he found injured by the use of oils, was the apricot and cherry. A writer in the Plough Boy for 1823, after stating the troubles he had met with from the peach grub, says that he found lamp oil effectual in expelling them; but that the remedy was as bad as the disease, as it invariably killed his trees.

In an old almanac published in Hartford, Conn., there is a communication which states the circumstance of the preservation of a single tree, among a great number that were destroyed by the grub, by the accidental throwing of a quantity of rags about the root, which had been used to absorb some lamp oil which had been spilled.

If oil does not prove deleterious to the peach, or any of the stone fruits, it is truly a most valuable discovery; as it is of easy application and within the reach of every one, and we shall not fail to make the experiment, and give our readers the result.

We are disposed to think that the *apple tree borer* and the peach grub are of two different species, as the latter only wounds the bark to cause the tree to gum; while the former perforates the solid wood in every direction. We are perfectly aware that the oils are bane to all the insect tribe and their *larvæ;* one drop of which will instantly destroy the largest of the species.

We would suggest the use of thick rancid oils, which have lost their fluidity, or had India rubber dissolved in them, or turpentine from the pine tree. All essential oils are repugnant in the extreme degree to the whole insect race.

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[*] Smith's Grammar of Botany. Allow me to remark, *en passant*, that no *practical* notice of this rule is found in Eaton's Manual of Botany. The only species of a genus, there *appears* to have a specific character *like other plants.* See Adoxa, Cannabis, Dionœa, Dirca, Frasera, Galax, Humulus, Hydrastis, Mitchella, &c. &c. &c.

[*] An eminent botanist with more propriety begins those specific characters thus:

Bignonia { *crucigera.* Leaves conjugate, *cirrhose.*
capreolata. Leaves conjugate, *cirrhose.*

We should have no fears of using any of these as an unguent, to simply annoint, or oil the tree as a preventive to impregnation, in such a manner as not to allow it to reach the roots.

The grub is often so encased with the outer bark and gum, that we should advise the removal of the earth and gum, before any application could be profitably made. [*Ib.*

DATES.

A friend left in our news room, on Monday, a bunch of young dates, taken from one of several date trees on Wilmington island, near this city, cut down by the late severe weather, and which, but for this misfortune, would, no doubt, have successfully matured. This tree when raised by planting the axil of the leaves, will bear in five or six years; but produced from the seed, fifteen or twenty years are required. In the northern part of Africa, in Persia, the Levant, &c. it grows over 60 feet high, with a straight trunk crowned by a tuft of long pendant leaves ten or twelve feet long.—*Savannah Georgian.*

RURAL ECONOMY.

(From the Genesee Farmer.)

ON CHEESE MAKING.

The preparation of rennet is one of the first operations in cheese making, and the flavor of the cheese depends very much upon the manner in which it is prepared. For this purpose, the stomach or maw of some ruminating animal is made use of, and that of a young calf is preferred by the best dairy women.—Various opinions have prevailed at different times with regard to the use of rennet. The Jews made use of the juice of plants for coagulating milk for cheese making, as the use of rennet was strictly forbidden by the Mosaic law. The Dutch cheese of commerce is made by coagulating the milk with muriatic acid, which, combining with animal alkali, contained in the milk, forms muriate of ammonia; and it is owing to the presence of this salt, that Dutch cheese has such a sharp, pungent taste, like the sal. ammoniac of the shops. When the stomach of a young calf has been taken out, which is intended to be used as rennet, the contents should be emptied out, and the bag washed very clean, and laid down into a stone jar, or some other convenient vessel, and covered with a strong brine.

It is the custom of some to save the coagulated milk or curd, contained in the stomach, when the calf was killed; but it is found extremely difficult to keep it sweet, and therefore it is now neglected at most dairies. When the maw has been about four days in the brine, it should be taken out and drained, and put into a new brine, sufficient in quantity to cover the maw; in which there should be put, at the rate of one lemon, and one ounce of cloves, to four maws. After the rennet is thus prepared, it should be kept closely covered, so as to exclude the air as much as possible; a stone jug of sufficient size is well calculated for containing it during summer, which may be closely corked.

Rennet, which has been kept in this manner one year, is found to be better than such as has been newly prepared.

In whatever way the rennet is prepared, it should be done before the season for cheese making commences, in sufficient quantity for the season. It should all be prepared in one vessel, that the whole quantity may be assimilated in strength as well as flavor. One very great defect in most of our small dairies, is a want of uniformity in the quality of the cheese, and with large ones that we have never adopted any particular standard for quality, which should be known in market by a particular name.

In England, cheese making is reduced to a system, and the *kind* of cheese to be made being decided upon, the particular process for that kind is pursued; and the cheeses are produced with as much uniformity, as our bakers make their bread from the same flour; and thus cheeses are known from one end of the kingdom to the other, by name; and a person wishing to purchase of any given variety, can send for it with as little danger of being deceived, as there would be, if he sent to the baker's for a loaf of brown bread or a loaf of white.

Now this uniformity of quality, which should be known by name, in our market, is what is wanted to make our cheese compare with any in the world, as no country produces finer or richer pasturage for cows. The first great step towards this, is the careful preparation of the rennet, to have an article of the same strength and flavor through the whole season; and this can only be done by having it all prepared together, before the season commences. This is so important a part of the process, that it should never be trusted to unskilful hands.

It is a very common practice for dairy women to send to the butcher's and purchase dried maws. This is risking the produce of the dairy, as it is next to impossible to tell, after the maw has been dried, whether it was carefully done: and if not, no after process can restore it. And if the rennet is bad, the most skilful operator cannot produce good cheese with it. If you have not sufficient maws in preparation for the season, they should be purchased of the butcher, when first taken out, and prepared under your own direction. It has been practised by some, to make use of the stomach of hogs, as a substitute for those of calves. But this should never be done, where those of calves can be procured, as cheese made from them is very apt to have a strong, rank disagreeable flavor, unless there has been uncommon pains in preparing them.

But let every dairy man and woman remember, that after the rennet is well prepared, and the milk is in readiness, that unless there is a uniformity of process, there will not be a uniformity of product. In the first place, the greatest attention is necessary as to the quantity of rennet to a given quantity of milk. This should always be determined by weight or measure—then the temperature at which the rennet is added. This should never be left to the vague manner of being determined by the hand, but by a thermometer. A thermometer is as essential in this process as in brewing or distilling; and we should pronounce that brewer or distiller mad, who attempted to scald his grain without one.

(From the New York Farmer.)

FATTENING HOGS WITH BOILED FOOD.

The remarks of Mr. Buel, on the advantages of cooking feed for fattening hogs, in the No. of your journal for Dec. 1830, certainly merits more attention than the subject will be likely to receive. So long since as in 1803 or '4, I had practical experience of this benefit in fattening what was then called a very mammoth of a hog, the net weight of meat about six hundred and fifty pounds.

After having slain my stock of pork for a farm, late in December, on riding by a neighbor's three or four miles from home, in the eastern part of Columbia county, I discovered a very large framed hog capering around the fields, his hair sleek, and concluded he had just escaped from the sty. On giving notice, the owner told me the story of this hog; which was that this had been the second attempt to fatten him, and that the hog "would *only grow, and not fatten,*" for which reason he had concluded to give him another wintering, and had just turned him out of the sty, having done so the fall before. On going to examine his other hogs, I found they had been supplied with plenty of good sound corn in the ears, and cold water from a running brook. I tried to persuade the owner to adopt my plan with this hog, and feed him on corn meal boiled, but he soon stuck up his nose at the idea of making "*hasty pudding for his hogs!*" As my effort to persuade him was ineffectual, he finally made me an offer of his hog, to try the plan myself, confident, as he said, that I would find it altogether unsuccessful.

To make the story as short as possible, I bought the hog, for less than what the owner called the value of the corn he had eaten, put him into a warm stye, partitioned from a horse stable, and the next day commenced feeding him with hasty pudding, as my neighbor called it, made of corn meal and a mixture of boiled potatoes, with now and then some pumpkins. This was done in a large kettle set in an arch, one boiling of which would last him a week. The hog soon began to fatten very fast, and to satisfy my neighbor who often called to see him, I kept an exact *account current* of his feed. He fattened astonishingly. On the last of the next June, having kept him very cool over night and without food for eighteen hours, I had him slaughtered before sunrise; and after hanging a little time, the meat cooled by throwing on cold water, cut up and thrown into pickle with the hams and shoulders. On the third of July, I sent the meat to Albany by a careful man, just as it was laid down in a half hogshead. He sold the meat readily, and brought me back on the evening of the 4th of July, 640 odd York shillings for so many pounds of meat from this hog, sold out of the pickle. This enabled me to close my account current, the result of which was a clear profit of about one third of the sum he produced me. These facts were all perfectly notorious at the time—for at that time this was a monster of a 'porker,' as they say in Kentucky, and I think was published in some newspaper; but I do not know that any one except myself has persevered in this plan of feeding, or that the experiment had any permanent effect on others. The farmers here have considered the perfection of *pork making* to consist in plenty of good sound yellow corn, and clear cold water, and so they will for aught that I can discover, judging by past experience. Yet you may, if you please, publish this, for possibly some one may not be too wise to take a hint, if hint this long story may be called. For thirty years I have fattened all my pork on cooked food, and am confident that it has been done with one half of the quantity of corn that would have been required fed raw, on the cob. It is more than ten years since these facts were all communicated to Mr. Buel, the writer of the Albany County Agricultural Report, by

A Scientific Farmer.

(From the New England Farmer.)

BEES.

Mr. Fessenden,—If the inexhaustible subject of bees is not worn out in your columns, you may state as follows.

In January last, with two friends, I called at a gentleman's house in Worcester, Otsego county, N. Y. to see his beehives.—He showed us a house 4 by 6 feet, and 6 feet to the eaves, boarded, clapboarded, shingled and well floored, with a close door; on unlocking and opening which, we beheld an ordinary beehive attached to the east wall and well braced, with slight scaffoldings extending upon the east, south and north sides. The only aperture was a small hole or two on the east side under the hive, which was elevated about three feet from the floor, for the bees to pass out and in. The bees had been put in, a young swarm 18 months before. The original hive was not only filled, but large masses of comb were attached to the exterior, and along the contiguous scaffolding. The quantity of honey was probably from 100 to 150 lbs. On my return I called to see another bee house belonging to the same gentleman, on another farm, built the preceding summer. This was 6 feet square, better finished and painted. The bees had filled the ordinary hive, and constructed eight or ten large pieces of comb on the exterior, and these last were mostly filled with honey, and of the finest appearance, I think, that I ever saw. The gentleman told me he could help himself to honey whenever he pleased, without disturbing the bees. I asked him if the bee moth did not plague him; he answered no. *He adopted the simple precaution of sprinkling spirits of turpentine occasionally, say every two weeks, about his ordinary hives, and around the holes of entrance into his large ones, which wholly repelled the moth.* I was so much pleased with this plan of managing bees, that immediately on my return I had a house constructed for them, and design to put into it the first swarm which I can save. Respectfully, J. **Buel.**

MISCELLANEOUS.

FELLENBERG INSTITUTION.

I. I. Hitchcock, Esq. *Bolton, May* 26, 1831.

Dear Sir,—We are favoured with your letter of the 23d instant, containing your observations on the plan of this institution as laid down in our prospectus; to which we beg leave to reply:

That the school of the first department is designed to afford the means of a complete classical education to the sons of such persons, as may be able and willing to give their children this advantage. In the event of an increase of pupils in this department, it is evident, that to accomplish our object, we must employ assistant teachers of the highest eminence for learning, and other suitable qualifications. To procure and retain the services of such men, whom, we doubt not, we shall have to send for from Europe, we must remunerate them in the most liberal manner. This cannot be done but at a very great cost. We therefore consider the charge in this department of $300 a year, moderate; and after mâture deliberation, we can see no reason which could induce us to make any abatement.

But, at the same time, we readily consent to add to the special terms of the second department, the following condition, viz.

That if any persons who have placed, or any who may place their sons at the school of the said second department, be desirous to have them taught the ancient languages, the boys shall receive instruction in Greek and Latin, as extensively as the time prescribed for their continuance in the institution will admit, for an additional charge of $60 a year, payable half yearly in advance.

We have the honour to be, very respectfully, dear sir, your most obedient servants,

W. Chaderton, &c.
Directors of the Fellenberg Institution, &c.

(From the Wilkesbarre Gleaner.)

OWE NO MAN.

Pray take my advice, if a fortune you'd get,
Pay off what you owe, and then keep out of debt.

This may be bad poetry, but, depend upon it, it is excellent sense. It is an old saying that "the debtor is a slave to the creditor." If so, half the world enter into voluntary servitude. The universal rage to buy on credit, is a serious evil to this country. Many a valuable man is ruined by it.

There was Titus Thornbury, who was an industrious man. He had got as good a farm as lay in the north parish of Applebury. But unfortunately he gave way to the prevailing fashion of getting in debt, and a sad life he led of it. At thirty he owed £2,000. His farm yielded about that sum. He would not live without purchasing some things, and as all the money he could raise went to pay principal and interest on his debt, he had every thing to buy on credit. So at the year's end, with interest and cost, and loss of time, and extra charged for things because he did not make ready pay, he was just as deeply involved as the year before. Thus harassed, dunned and dunned, was poor Thornbury for twenty years.

Not so with his cousin Ned Foster. He vowed he'd owe no man. The produce of his farm was about the same as that of Thornbury's; but as he was not forced by duns or executions to sell it out of season, he got the highest price; as he paid for things when he bought them, he got his things 2 per cent. cheaper—as he paid neither interest nor cost, and lost no time in running to borrow money or see his creditors, he laid up £90 a year, and lived quite as well as his cousin, and infinitely happier.

When poor Thornbury saw a man riding up the road his anxious looks told him as plain as looks could tell, "plague on that fellow, he is come to dun." When a sudden rap at the door announced a visiter, no matter how lately he had been dunned, he turned pale and looked sorrowfully anxious, until the visiter was known.

Many a man goes into the store for a single article. Looking around, twenty things strike his eye; he has no money, buys on credit. Foolish man! Pay day must come, and ten chances to one, like death it finds you unprepared to meet it. Tell me, ye who have experienced it, did the pleasure of possessing the articles bear any proportion to the pain of being called on to pay for them, when you had it not in your power?

Good people hark ye; a few rules well kept will contribute much to your happiness and independence. Never buy what you do not really want. Never purchase on credit what you can possibly do without. Take pride in being able to say I owe no man. Wives are sometimes thoughtless, daughters now and then extravagant. Many a time, when neither the wife nor the daughter would willingly give a single pang to the fond father's bosom, they urge and teaze him to get articles, pleasant enough to be sure to possess, but difficult for him to buy: he purchases on credit, is dunned—sued: and many an hour made wretched by their folly and imprudence. Old Robert presents his compliments to the ladies, and begs they would have the goodness to read the last eight lines once a week till they get them by heart, and then act as their own excellent disposition shall direct.

Above all things, good people, never go in debt to a tavern. To grog, to toddy, to sling, to bitters! Oh, horrid! what a bill! Never owe your shoemaker, your tailor, your printer, your blacksmith or labourer. Beside the bad policy of keeping in debt, it is downright injustice to those whose labour you have received all the benefit of.

How happy the farmer who owes not a pound,
But lays up his fifty each year that comes round.
He fears neither constable, sheriff nor dun;
To bank or to justice has never to run—
His cellar well fill'd and his pantry well stor'd,
He lives far more blest than a prince or a lord;
Then take my advice, if a fortune you'd get,—
Pay off what you owe—and keep out of debt.

HINTS TO FARMERS.

Baron Humboldt says, that timber should be left standing on the tops and sides of hills, for three very good reasons:

1st. Affording a shelter during high winds.

2d. Affording better fuel than timber from low lands.

3d. Preserving the subterranean water courses, which pursue the uneven tenor of their way up the steep woodlands; but when the sun is let in, the parched earth drinks up, retards, and finally destroys them.

Art of Giving.—We should give as we would receive, cheerfully, quickly, and without hesitation; for there is no grace in a benefit that sticks to the fingers.—*Seneca.*

AN ACRE OF CORN.

I am a poor ploughman who never have wander'd
Away from the sight and the pleasures of home:
I have always been prudent, and never have squander'd,
And so I have never been driven to roam.
For thirty long summers my shoulders have bended
In tilling the farm where my father was born:
I live under his roof, and this season have tended,
With the plough that he left me an acre of corn.

Though others may go to the southward and peddle,
And bring home of guineas and dollars good store,
I ne'er have desir'd with their crankrums to meddle,
But to hoe in my garden that lies by my door.
When the sun is first rising I always am hoeing
The mould when 'tis wet with the dews of the morn;
And when he is higher, you will find me a mowing,
Or driving the plough in my acre of corn.

There are some who are crossing by sea to the island
They call Santa Cruz, with their horses and hay:
For my part, I'd rather be safe here on dry land,
And hoe in my garden, or work by the day.
I am out to the field with the sun, and am mowing,
Till called up at noon by the sound of the horn,
Or else I am twirling my hoe, and throwing
The mould round the roots of my acre of corn.

This corn is the sort that is tufted and bowing,
And when we have thresh'd it, 'tis made into brooms;
'Tis the best of all besoms, so far as I'm knowing,
To sweep out the dirt and dust from our rooms;
They always have rais'd it since I can remember,
And my father once told me, before I was born
He made brooms for his trade, and I guess by December,
I shall make up a load from my acre of corn.

D. Rowell, Esq. of Madison, killed six hogs last winter, weighing 427, 436, 449, 483, 492, and 538 lbs.—in all 2825 lbs.

THE FARMER.

Baltimore, Friday, June 3, 1831.

[Correspondents and advertisers of implements, machinery, &c. are particularly requested to read the following letter. It strikes us that many more articles would be sold by advertisers if they would state the prices of them in the advertisements, as recommended by our correspondent.]

Mr. Smith: *Wilmington, N. C. May* 19, 1831.

Sir,—In testimony of my approbation of the manner in which you have conducted the American Farmer, I send you the current year's subscription before it is due.

I like much your practice of giving us information derived from actual experience, and should be glad if your correspondents would be very particular in giving descriptions of their improvements, and in stating the cost of them. Accurate descriptions of the improvements on the best managed farms, and their cost, would be the best information that could be given to those whose farms are not as well managed. It would be still better, if the reasons and principles on which they are founded were also stated. I would recommend the admirable plan of Count Rumford in his essays. The Orange farm would furnish several articles for the American Farmer that would be highly useful to us of the south, who know little of these things, and consider its profits almost as miracles. The machinery by which the dogs pump the water and cut the forage; also the kind of cutting knife; the steaming apparatus; the improvements in the kitchen, with the method of preparing food for the labourers, and indeed a detailed account of almost every thing on the farm, would be equally instructive and amusing. Other farmers could no doubt furnish much valuable information. It is not sufficient that we should be informed that such and such things have been done, we should be informed *how*, and at what *expense* they have been done. And let me remark, that *explanations* cannot be too *plain*.

Mechanics would confer a great favour on us if they would state their prices in their advertisements. We often want an article, but for want of knowing the price of it cannot tell whether the use we have for it will justify the expense of procuring it. The price of an article is very important; so also are oftentimes the materials of which it is made. Sinclair & Moore's double mould ploughs would be very useful among us if they could be used amongst roots and stumps, and if they would not cost too much. We can learn neither of these things from their advertisement. Are they of cast or of wrought iron? Price?

Have seen several accounts of Papin's digesters, but could never learn their practical advantages and cost; should be obliged by particular information with respect to both. Where can they, or any similar ones be had?

Do request your correspondents to give us, (when in their power,) the *how*, the *why*, and the *expense* of whatever they propose. This necessary information would prevent the failure of many useful expedients, and would also prevent many useless ones from being made.

With many thanks for the information I have derived from the Farmer,

I am, very respectfully, J. G. E.

PRICKLY COMFREY.—*Lymphytum Asperrimum.* We are very anxious to obtain the seed of this plant, and will consider it a great favour if any of our friends will send us some. A gentleman, to whom the public is much indebted for many horticultural improvements, has requested us to obtain some for him; and we wish some for our own use also. We need not say that the favour will be reciprocated whenever opportunity offers.

NATIVE SILKWORMS.—We are informed that a lady near Georgetown, D. C. has a couple of cocoons of the native silkworm of so extraordinary a size that a description of them and the fly that has come out of them is deemed worthy of publication. The cocoon is fully as large as a turkey's egg, and resembles that of the common silkworm in other respects, except in the fibre, which looks like flax. The fly is very beautiful, and very large, the size of a wren. Its antennæ are black, legs and back red, body striped. It measures between the extremities of its wings six inches. We should be glad to obtain the flies for preservation; and if they shall have produced eggs a few would be very acceptable.

THE MACON ADVERTISER copies one of Mr. Ismar's excellent essays from the American Farmer without giving the usual credit. We have noticed many other instances of the same conduct in other papers, and notice the circumstance at this time and in this way, merely to give notice, that we shall take good care to guard against a repetition of such injustice by hereafter stopping the exchange in every instance that comes to our notice.

☞ We are constrained to ask earnestly the attention of those of our subscribers, who owe for more than the 13th volume, to their pecuniary relations to us. The amount due us is trifling to them individually—to us, the aggregate is of very great importance. As this subject is by far the least agreeable one on which we ever write, we desire to get it off our minds as soon as possible, and ask for that purpose the aid of those of our friends who alone can effectually assist us.

CHEROKEE ROSE HEDGE.—If any person has succeeded in making a hedge of the Cherokee rose in a dry soil and northern latitude, we should be glad to receive a particular account of it for publication.

Prices Current in New York, May 28.

Beeswax, yellow 22 a 23. *Cotton*, New Orleans .10 a .12; Upland, .8½ a .10½; Alabama, .8½ a 12. *Cotton Bagging*, Hemp, yd. 18 a 20; Flax 12½ a 16; *Flax*, American, 7 a 8.——*Flaxseed*, 7 bush. clean .—— a .—— *Flour*, N. York, bbl. 5.50 a 5.75; Canal, 5.75 a 6.12; Balt. Hwd. st. 6.00 a ——; Rh'd. city mills —— a —— country, 5.75 a 5.87; Alexand'a, 5.75 a 5.87; Fredericksburg 5.50 a 5.62; Petersg 5.62 a ——; Rye Flour, 3.75 a 3.87; Indian Meal, per bbl. 3.87½ a 4 00; per hhd. 18.00 a —— *Grain*, Wheat. North, 1.22 a 1.24; Vir. 1.12 a 1.14; Rye, North, 81 a —; Corn, Yel. Nor. 74 a 75; Barley, — a —; Oats, South and North, .42 a .—; Peas, white, dry, 7 bu. 5. Beans, 7 bu. 7.00 a 8.00. *Provisions*, Beef, mess 8.50 a 9.25; prime 5.50 a 6.25; cargo 4.62½ a 5.00; Lard, 7½. a .9; Pork, mess, bbl. 14.00 a 15.00; prime 10.50 a 11.25.

J. S. EASTMAN,
No. 36, West Pratt Street,

OFFERS, at *Wholesale and Retail*, Hay and Manure FORKS, and Scythe SNEADS.—Also for sale, Grain CRADLES, and Cradle SCYTHES, Grass SCYTHE, English and American, with and without Sneads, Wheat FANS. Scythe STONES, &c. &c. Together with his usual assortment of PLOUGHS, and other AGRICULTURAL IMPLEMENTS, Garden Seeds, &c.

A fresh supply of FLOWER SEEDS, just received from the Messrs. Landreth's.

June 3.

AGRICULTURAL BOOKS,
For sale at this Office.

NATURE AND REASON Harmonized in the Practice of Husbandry. By the late John Lorain. With an Alphabetical Index.—Price $3.50.

ALSO,

HIND'S GROOM'S ORACLE.—Price $1.
——— FARRIERY.—Price $1.
MASON'S do. Price $1.25.
PRINCE ON THE VINE.—Price $1 50.
——— HORTICULTURE.—Price 75.
LAWRENCE ON THE HORSE.—Price 87½.
LOUDON'S GARDENER'S MAGAZINE, for 1830.—Price $7.50.

HARVEST TOOLS.
SINCLAIR & MOORE, *Pratt Street Wharf,*

OFFER for sale a large stock of GRAIN CRADLES, with best quality Scythes attached. GRASS SCYTHES and SNEADS ready hung for use, also GRAIN and GRASS SCYTHES separate from the Sneads, English and American Sickles.

80 dozen steel Hay, Grain and Manure Forks, a complete assortment.

40 dozen Rakes of a good quality, Whet Stones by the box or retail, Emory Rifles or Rubbers for Scythes. Also a full supply of their IMPROVED WHEAT FANS and PLOUGHS, Cultivators and other Agricultural Implements as usual.

CASH FOR WOOL.

The subscriber is in this market as a purchaser of wool for eastern manufacturers, and will pay cash and fair market prices for every description of American wool. RICH'D MESSITER,
No. 5 Light street wharf, up stairs.
May 20. 2 m.

WOOL WAREHOUSE.
LYMAN REED,
Commission Merchant, No. 195 Baltimore street,

Devotes particular attention to the sale of WOOL. Any consignments of the article forwarded to him for sale, can be disposed of immediately for CASH, at the highest market price.

CASH, and a fair price, will be paid for a few thousand pounds of *good wool*, (if offered immediately,) to supply orders now on hand.

Refer to Messrs. Cobb, Wyman & Co. Baltimore.

GARDEN SEEDS of every description, warranted genuine, constantly for sale by Gideon B. Smith, office of the American Farmer.

BALTIMORE PRICES CURRENT.

TOBACCO.—Seconds, as in quality, 3.00 a 5.00; do. ground leaf, 5.00 a 9.00.—Crop, common, 3.50 a 4.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 10 00; yellow and red, 8.00 a 14.00; yellow, 14 00 a 16.00.—Fine yellow, 16.00 a 20.00.—Virginia, 4.00. a 5.00.—Rappahannock, 3.00 a 4.00——Kentucky, 3.50 a 8.00.

FLOUR—best white wheat family, $6 00 *a* 6.50—super. Howard-st. 5.12½ *a* 5.25; city mills, 5.00 a —; Susq. 5.00 *a* ——; CORN MEAL, bbl. 2.25; GRAIN, Md. red wheat, 90 *a* 1.10; white do. 1.10 *a* 1.20, Susq. 1.16 *a* 1.18-CORN, white, 68 *a* —-yellow 68 *a* —-RYE, 65 *a* 70. OATS, .33 *a* 34. BEANS, 75 *a* 80--PEAS, 65 *a* 70--CLOVERSEED —— *a* ——TIMOTHY, 2.00 *a* 2.50—ORCHARD GRASS —— *a* ——-Tall Meadow Oat Grass 2.75--Herd's, 50 *a* 75--Lucerne 30 *a* 37½ lb.—BARLEY, 62½--FLAXSEED 1.25 *a* ——COTTON, Va. 9 *a* 9½--Louisiana 10¾ *a* 11½—Alab. 9½ *a*. 11—Tenn.. 9 *a*. 10——N. Car.. 9 *a* .9½—Upland 9 *a* 9½—WHISKEY, hhds 1st p. — *a* 32--; in bbls 34 *a* ——WOOL, common, unwashed, lb. 30 *a* .35——washed, .40 *a* .45-crossed, .32 *a* .37--three-quarter, .42 *a* .48--full do. .40 *a* .48, accord'g to qual.-HEMP Russia ton, $255 *a* ——; Country, dew-rotted. 7. *a* 7½c. lb.--water-rotted, 7½ *a* 8c.-Feathers, — *a* 33-Plaster Paris, per ton, 3.75 *a* ——, ground, 1.37½ *a* ——bbl.——Iron, gray pig for foundries per ton 33.00 *a* ——; high pig, for forges, per ton, 28.00 *a* 30.00; bar, Sus., per ton, 80.00 a 90.00.—Prime Beef on the hoof, 7.00 *a* 7.50—Oak wood, 3.00 *a* 3.25--Hickory, 4.50 *a* 4.75—Pine 2.00 *a* 2.50.

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EDITED BY GIDEON B. SMITH.

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3. When once sent to a subscriber, the paper will not be discontinued without his special order; and then not till the end of the year of his subscription that shall be current at the time of receiving such order.
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5. Advertisements connected with any of the subjects of the American Farmer, inserted *once*, (seldom more) at one dollar per square.
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AGRICULTURE.

ESSAYS ON AGRICULTURE,

BY F. A. ISMAR.

No. IV.

Burning turfs is of great utility in wild soils or cold, deserted forest grounds. It is a kind of first cultivation, a manner of making fit the soil for culture. The rough soil is either by a digging machine cut out or rolled with an heavy, specially arranged and cutting roller, overrolled in two directions and the sods turned by the paring plough. At some distance the sods are heaped up, and at every heap there are some reserved to damp the fire. When dry weather, the heap is kindled with dry small wood, heath-plants or straw, laid at the windside and made cautiously and slowly to burn. Before the heaps are white and burnt to ashes, the fire is extinguished; and as soon as they cool sufficiently they are equally spread and ploughed under immediately. A shorter and more comfortable method is, to set fire to the roots, weeds, stubble, reeds, &c. on the soil with the current of the wind and to try only to maintain an equal fire. On wet and sour moor grounds, also on clammy and weeddy clayfields and wild waste lands, this manner of burning is of very great service. The soil loses its acidity, wetness and state of dearth; the products of the burning mingle with the ground and the ashes of the burned materials are a great means of excitation. Every thing grows thus ordinarily. It is best to begin with rape seed, then to pass to grains which are exchanged for pasture herbs.

Water itself is also a means of ameliorating the soil. The art of watering consists, to lead in an arbitrary direction and at the due time the water into meadows and fields and which is not less important in order to prevent them from becoming marshy, to lead it immediately out when it has performed its duty. The time for letting the water remain within a meadow in order to produce the greatest and the best effect, depends on the nature of the soil and the season. Meadows are watered either in the spring or the fall. In the former case it must be done after the snow has disappeared and when no more ice is to be expected. The watering is thus continued until the month of May, when it begins to become warm. After the hay harvest, when the meadows have again become very dry, they are again watered but merely during eight days. In the fall the water enters the meadows when the cattle have left them, which erroneously is generally done. It is the best season to water meadows, they gain more and better grass. If the water can arbitrarily be led in and out, the meadows are best overflowed during a month; they stay then dry for some days and are again watered till it begins to freeze. If thus in the month of March the grass begins to grow strongly, it receives no more water, but at the time when it begins again to become arid it is watered during a few days, after which it is again led off, as soon as the skum appears on the meadows; for that is a sign that the grassroots begin to putrify and the meadow would be lost for the whole year if the water was not led off. A loose, black, also a clayey soil receives humidity easily and retains it a long time. On such soils therefore there is need of a moderate use of the water, of outlet ditches in order to lead the water out, as soon as it has sufficiently penetrated the earth. Gravelly or naturally dry land requires more watering than any other kind. New meadows must remain dry till fall. The manure within them from the former culture mingles in that time better with the soil, and although in the first year little hay may be harvested, the fall watering will compensate it abundantly in the next year. Draw-wells applied in rivulets or rivers, dams, and sluices or spring conductors are the ordinary means of watering. Not only meadows but in dry summers, also grain fields, pastures and gardens can be watered in that way, and substitute rain. The best water for this object is that which pours cleanly and abundantly from the source. If in the neighbourhood is found a light green matter, or a brown and stickey one which adheres to the fingers, or if cresses grow in the neighbourhood, that water can be used during the whole summer. Very cold, chalky, swampy, or vitriolated water is very obnoxious for meadows. Such water is ameliorated when filtered through sand, or which is better, when mingled with lime or ley. Watering is of the greatest importance and utility. Toseana has become a garden by this means. With meadows as with all other fields it procures an astonishing harvest.

I have still to speak of the manner of applying manure. It must be done in due time and wholly. As soon as the dung has acquired the necessary fomentation or is ripe, the strewing and underploughing of it is of very high importance. The abundance of the future harvest depends so much upon it that a good farmer should never indifferently trust the performance of that affair to the servants, but always direct it himself or leave it to the direction of a reasonable and faithful superintendant. The construction of the dung cart must be so as to lose nothing on the way; it must therefore be closed below. All carts should also contain an equal quantity, in order to give to each field what is due to it, and to have a regular account of it. When loaded the unripe dung is to be put aside, but the ripe to be firmly trodden. All dung strata are not of the same quality, for that depends on the more or less strong food of the animals. The power of the dung would be unequal if it should be brought on the fields in strata; some places would have more manuring than others. In order to avoid this, the Swiss, whose dunghills are remarkable for order and niceness, break them vertically and bruize with a particular instrument the hill in stripes from the top to the bottom. In this way all strata are well mingled and the farther advantage is attained, that the straw is cut and the manure easier strewn. On the field the dung is equally divided by rows and in heaps of the same height and distance, whereby the higher or lower situation of the soil is to be regarded; for rain and snow bring much of it in the lower parts.

The time of manuring is very easily to be known, and still in that almost the greater part of agriculturists make enormous faults. It is an old and true proverb to eat the meat when it is cooked; which here applied is as much as to say, bring the manure on the field shortly before the seed, which must be fed with it. If brought on sooner, it would be useless; sun and wind would deprive it of its best saps, or it might consume itself within the earth. The dung-cart must immediately be emptied, the manure equally spread and ploughed under. That is also a reason why we ought not to carry out the manure on hot summer days, because it would be impossible to plough it down. In any other season the ploughing should never be delayed to the fourth day. This ploughing is of so great importance that a heavy, tight and clammy soil requires a repeated labor in order to mingle the crust of the field with the manure.

A good journeyman's work-field may for three years require 10 or 1200 lbs. manure; but all this must be decided by the agriculturist himself, according to the quality of the soil, the rotation, and other circumstances. There is but one general rule admissible, that it is better to be too liberal than too economical with the field.

It is a general observation, made in this and in other countries, that there is so much complaint about want of manure, as there is real abundance of dung materials and dung means. I am not bold enough to assert, that this is the fault of ignorance, negligence, and laziness; but it is a truth, that no complaint is more unjust and animadvertible! There are countries, f. i. in China, Holland, England, Switzerland, where any thing belonging to dung is carefully preserved and painfully collected, purchased with much money, prepared, and used. The uncleanliness which is observed at so many large and small farms, the stables, dunghills, the streets, and the whole neighborhood of cities, towns and villages, proves too frequently that this spirit of improving agriculture is not generally awakened. Who, for instance, in Bucks county, Pa., can deny that, except on the turnpike, the roads are almost impassable—on foot too. There is a continual swamp; and I must confess that I am so unhandy as to have broken, in the infernal road from Giestown to the turnpike for Bristol, and on the straight road from thence to that place and Newport, in the short space of two months, a gig and a dearborn. And since the mending it is worse, if it has rained. If I had a wish to express, I would pray the supervisor to be satisfied with the money he receives from the farmers, but to mend no road as he does, and thus avoid endangering the necks of the wayfarers as well as their carriages. Human population is indeed not so abundant here, but geese, ducks, and pigs, plough the roads continually. The stables, and generally the farms of a certain description, smell at the distance of a mile. The dunghill is either entirely weakened by rain, or partly washed down—a large abode for pigs, hens, and other animals. The stables are like that of Augias—the poor beasts mould in swamp, without air in a bad smell; the paunches of the cows are covered with a crust of dirt—no trace of cleaning them. And if finally this miserable manure is brought on the field, it remains on it until it is mouldy or burnt, and two-thirds of its power is lost. Every thing, however useful it may be, is rejected if it has not been done by the forefathers, or if it requires labor. Nobody thinks that the collection of dung is a guaranty for the cleanliness of farms, villages, towns and cities; that all gains a more agreeable aspect; that air, houses, and men become healthier, gayer, and more moralized.

I have often thought that this care was not only an object of a good housekeeper, but of the police; but I have finally been convinced that the police's objects are fines, vexation (sometimes) of the citizens, and brilliant dinners. A city and any habitation may exist without comfort and health of the inhabitants—but without a dining police—Oh no! what would the good people do with their money? In my next number, I intend to speak of the plants.

(From the New England Farmer.)

ON THE CULTURE OF INDIAN CORN.

I observed a publication in your paper, vol. ix. No. 33, dated Plymouth, Con. March 7, 1831, subscribed B. in which the writer states his method of raising corn on green sward, and he plants no other with corn. I understand him that it is not advisable to plant any other ground with corn. I am opposed to this opinion for the following reason. I will endeavor to show the advantages, which result from not planting green sward with Indian corn. If potatoes are planted on green sward there is little or no danger of worms injuring them; and if well managed, the crop is likely to be as good the second year. The ground of course will be more clear, and better worked over, than by tillage for corn. The ground after the potatoe tops are taken away for manure, is free from obstructions for cross-ploughing and mixing, and with common usage well fitted for a crop of corn, without the least hazard of being injured by the grub worm, which too often disappoints the farmer of his crop. It is certain that corn will grow well after potatoes, though they are very much against the growth of many vegetables. By planting corn after potatoes the farmer obtains not only a more sure but a much better wheat and grass.[1]

Mr. B. states that he feeds his ground intended for corn as close as possible. For this he gives no reason; but I think there is great reason against it. I am confident there is great benefit derived from ploughing in vegetable substances, and especially if green. I have known good crops of corn without any manure. except those substances ploughed in. In one instance I doubled my crop, side by side, by ploughing one piece a month later than the other, from the benefit of green vegetable manure.

Mr. B. says he spreads his manure and ploughs the ground into ridges, leaving a path between the ridges unploughed. I observed his manure has been spread from before ploughing until hoeing on the surface. Every good farmer knows that it has thus been exposed, by evaporation, the effects of sun, air, &c. to a great loss of virtue. At the first hoeing, Mr. B. ploughs or breaks up his balk, and if tough, he admits it to be hard hoeing. I presume it is; I have tried a small sample in a similar way, and found it very hard tending my corn. Mr. B. states that one of his neighbors tried a level moist piece of ground in Mr. Phinney's mode and it being a wet season he nearly lost his crop. Thus it is seen that Mr. B's advice is altogether in favor of ridge ploughing even of green sward for a crop of Indian corn. I will endeavor to show more plainly the advantages of level ploughing. In the first place it is presumed that the manure in either case is equal, and the labor of getting it on and spreading it the same. Now I had rather plough an acre smooth, by ploughing every furrow, than cut new furrows, and leave one half unploughed: besides, its being much harder for the team, it requires twice the attention in laying the furrows even, and there is the balk to plough between the rows. The advantage in harrowing, pulverizing, levelling and lightening the cracks of the level-ploughed above the ridge-ploughed, I consider very great. I had rather tend four acres of the level than one of the ridge-ploughed. Mr. B. says his neighbor almost lost his crop. But this must have been because he did not plough right, not because he did not ridge up his ground.[2]

In ploughing most level ground for tillage, be sure to plough in a direction to drain, and in small lands.

The ordinary mode of tilling low level land with corn is to enter on one side, and plough a large flat land; having no reference to draining it, and paying little or no attention to the depth of ploughing. Consequently in this moist and soft ground it is ploughed one foot deep. If the manure is spread and ploughed in, without any addition, say ten fifty bushel cart loads, the probable crop, with good attendance is ten bushels of corn to the acre. If four loads of old yard manure is put in the hills in addition, it is twenty bushels. It is seen that I allow but little in this mode of tillage. But my experience teaches me that it is full enough. Now this seems to be discouraging in tilling low ground with corn. But I tell you not to be discouraged; I am sure those soils are the richest on our farms, and they can be improved so as to produce the most corn as well as most other vegetables. Cart on the ten loads of good manure, and spread it even. Plough with a sharp plough with a foot, as we call it, for a guage on the beam; it is far preferable to a roller, as it levels off small protuberances, instead of jumbling over them like a roller. Plough this ground in small lands, in a direction to drain six inches deep. Tend it well, and the probable crop is forty bushels. Add four loads of manure, and put it in the hill, and the crop will be fifty bushels. Now there is encouragement. But plough the ground with the same apparatus in the same direction and the same manure, three inches deep, with the same good attendance, and the probable crop is 80 bushels per acre. In this last mode of tillage it is improper to put manure in hills. And if the four loads or more be added and spread carefully on sward, and ploughed smoothly in and carefully harrowed lengthwise with the furrow, so that you turn back no turf and the whole attendance be good, you may reasonably expect 100 bushels, common evils excepted. I will observe that these remarks are founded on experience, and not on theory. This last mode I much prefer to all that I have heard of or tried, and I have tried all which promised the least success.[3]

I will briefly explain the causes of these different products. In the first and ordinary mode, the sward that is full and warm with vegetable manure is turned below the reach of the corn roots, especially as they run shoal on this wet ground, and if manure is in the hill it will spring a little from the effects of it. But there is nothing else to feed the corn, but the wet, cold, naked clods, destitute of any kind of manure, and the corn is subject to renewed colds from every rain or dew; hence it cannot thrive. On the other hand, if it be ploughed three inches deep, the sward full of vegetable manure, with the barn dung, and the rubbish are ploughed in, the soil will lay up light, and the sun and air having their effect to the depth where the roots will be found most abundantly, and exactly in their elements, not suffering from drought nor wet, will thrive beyond conception. This is the ground and the mode of tillage that I shall principally pursue the coming season.

I choose to plant my rows across the lands and furrow, and as the sward rots, a light harrow has a good effect. I plant in a drill, made by a large tooth in a light horse harrow or a machine for that purpose. There can be no ploughing among this corn, nor any hill made.

I planted high ground last season, and to guard against drought, and to have my ground well prepared to sow winter rye I made my drills 7½ feet apart, and dropped my corn, single kernels four inches apart in the drill. A part of it was three kernels together, one foot in the drills. One object in tilling this ground in this manner was to have it well prepared to harrow into it winter rye, at any time when I might think proper, without any other expense. I worked my ground so constantly with harrow, plough, &c. drawn by a horse, as to keep it perfectly clear and mellow, snug up to my corn, using the hoe only to clear the weeds round the roots of the corn. By this tilth my ground was kept in the most perfect and beautiful order that can be conceived and without a single cent's cost for the next crop. And I found no obstruction in getting in my rye while the corn was on the ground.

I will observe that I have not owned this ground long, before I tell you that it is much worn down by too frequent tillage. Consequently I could not expect a great crop, especially as I put only two loads of barn-yard manure per acre. This was strewed in the drills, after dropping the corn. My crop exceeded my expectation. I expected only 200 bushels, but gathered 300 from about twelve acres. This mode of husbandry is somewhat new to me. I shall leave it for the reader to judge for himself the advantage. On my low ground I shall drill for my rows four or five feet distance, as the land will be much higher manured and not liable to drought. I am sensible that I get more corn from drill than hill planting. But I will give one hint to those who for any reason plant in hills. A general, if not universal opinion prevails that the seed corn should be spread in the hills, and much pains is taken consequently to spread it, and this they say they know to be the best method for a crop. They tell me the corn comes up when alone much stronger and stubbeder, shoots out, and far outgrows that which comes up together. This is true as far as respects the better appearance of the corn, when young. But this is not all which should be considered in a crop. The object should be to grow the most corn on the same ground. To convince farmers to change their practice and to plant their seed as nigh together as possible, they will be benefitted from less labor and a much better crop, I fitted a piece of ground as equally as I could and well for a crop of corn, with old dung in the hills. I fixed a machine with five tree nails, in an even circumference, eight inches diameter and stamped a number of rows, after being levelled, and planted my seed carefully in them. I took a staff and made one hole in a place, in rows fitted in the same manner by their side. The appearance of the corn planted by single kernels was far before the other while young. I am positive that every plant had from two to four shoots each; and I am as positive that there was not one on one stalk of the other; and they also appeared much slimmer. It is easy to conceive that the single planted was vastly harder to tend. This ground was warm and fair for a crop. As the season advanced, and became hot and dry, the single planted began to stop growing, while the others appeared to suffer for nothing, and throve beyond account compared with the single kernel planted, as that was very bushy, and so affected by drought that it produced but small ears, whereas the other had full large ears. I weighed the corn in baskets when harvested, before husked, and found twice the weight from that planted together, and believe there was more difference when shelled. Since that experiment I have taken care to plant my corn, that I plant in hills, as close together as possible. The reasons I give for this great difference in produce, from the different modes of planting, are, that corn requires a free circulation of air, and a good exposure of the earth to the sun, and a good unobstructed space for the root; and lastly, not to be over-stocked with any kind of vegetable, of which corn-shoots are the worst.[4]

I feel unwilling to leave this subject until I have given a full exposure of erroneous opinions and practices that prevail. A neighbor set out with a full determination to get a premium. His farm was under the highest cultivation; he was in the habit of procuring great quantities of manure and using it freely. In this way he prepared three acres of his best ground, and had given out word, with the greatest confidence, that he should get the premium on corn. He considered that his ground was as good as any in the country, and he was confident no one would manure as high as he would, and of course his ground ought to be seeded high. He also gave his corn the best of attendance. It throve wonderfully, it was a show, and he appeared to take great pride and satisfaction in it. It grew so high and slender withal, that it could not well support itself. The result was, that at harvesting he received only five bushels per acre.

Portsmouth, N. H. April 11, 1831. A. R.

NOTES BY THE EDITOR.

[1] Dr. Deane, in his N. E. Farmer, expressed opinions similar to those of our correspondent with regard to the inexpedience, as a general rule, of planting corn on sward land; and says "it is apt to be too backward in its growth, and not to ripen well. But if we do it on such land, the holes should be made quite through the furrows, and dung put into the holes. If this caution be not observed the crops will be uneven, as the roots in some places where the furrows are thickest will have but little benefit by the rutting of the sward. But if the holes be made through, the roots will be fed with both fixed and putrid air, supplied by the fermentation of the grass roots of the turf. In this way I have known great crops raised on green sward ground, where the soil was a sandy loam, but mostly sand." This writer, and many others, recommend a crop of potatoes as preparatory to that of corn. E. Phinney, Esq. has been very successful in raising corn on green sward, and his methods of culture are described, pages 226, 266, of the current volume of the N. E. Farmer.

[2] With regard to ridge ploughing, the following appears to us to be correct. "When there is reason to apprehend that the ground will prove too moist for this crop, it will be advisable to plough it into narrow ridges, and seed each ridge with one or two rows, as shall be most convenient. But sandy and clay soils should merely be turned over, in a flat furrow, and not afterwards ploughed so deep as to break the furrow. For clay, if mellowed too much, will become mortar in wet weather and bake in dry, and the sand will become too loose to support vegetation."—*Memoirs of N. Y. Board of Agriculture,* vol. ii. p. 20.

[3] Although such shallow tillage is contrary to the theory and practice of most cultivators, it is not without precedent. Earl Stimson, a celebrated agriculturist of Saratoga county, N. Y., raised very great crops by ploughing but three inches in depth. In an address delivered before the Saratoga Agricultural Society, [republished in the N. E. Farmer, vol. v. p. 224, 252,] he gives the details of his mode of culture for Indian corn, and other crops, and remarks, "shallow ploughing and the application of manure to the surface, is contrary to the common theory, as it is contended by some writers that the manure loses its strength by evaporation, when so much exposed to the sun. There may be some loss by the exposure, but not so much as there is by ploughing it in deep. I should always wish, however, that the manure after being spread from the wagon, might be immediately mixed with about one inch of the surface either with the plough or harrow after rolling, as the decomposition is much quicker when it comes in contact with the soil, and in this situation it becomes a better conductor of the vegetable elements to the plant. Keeping the vegetable mould as near the surface as possible, I have found not only a great preservation to the plant against frost, heavy rains and severe droughts, but the sod below absorbs the wash of the manure, and thus prepares it well, when turned back, for the next crop. As our new lands are much surer for, and more productive of crops, where the vegetable mould is all on the surface, the nearer I approach the same principle in cultivating the soil, the better I succeed in raising crops. I have received more benefit from three loads of manure applied as above, than from five when ploughed in deep."

[4] In an able essay on the culture of Indian corn, by S. W. Pomeroy, republished in the N. E. Farmer, that gentleman observes, "I think four stalks together afford support to each other against winds, and are not so apt to send up suckers as when single, and there may be some advantage by concentrating the manure, in forwarding the young plants during the cold season, which we frequently have in June." Judge Buel likewise says, "Plant your corn in hills. The distance will depend on the kind of seed and strength of the ground," &c. see p. 326, our current volume.

(From the Southern Agriculturist.)

On the Management of the Cow Pen and Dungstead.

Dear Sir,—I observe in your Agriculturist for last month, a query over the signature of "*A Cotton Planter,*" soliciting information respecting "the most profitable way of using well rotted cow-pen manure, which has been laying in heaps a whole winter, for cotton land." As this is the season for making manure with our stock, and the time is fast approaching for its application to the soil, it is to be hoped that many of your correspondents may communicate the result of their own experiments, so as to enable your readers to form more correct opinions, and consequently to expend their time and labour with greater certainty of the desired success. Having been in the habit of collecting and making manure with my cattle during the winter, and applying it principally to cotton land the ensuing spring, I have been induced to state the process I have usually adopted for the last seven years, which, although not strictly applicable (nor intended) for a solution of the question proposed, yet having derived some benefit from the practice pursued, myself, I feel desirous of submitting it for the consideration of others. I am aware that it has heretofore been the prevailing opinion, that the benefit to be derived from the application of fresh or long manure to the soil, was very uncertain, and in dry seasons often injurious. My own experience justifies a different conclusion, as, during the time before stated, I have, by manuring with compost or cow-pen manure, made with my stock in the months of November to the March following, inclusive, (five months,) and applied to cotton land in the spring, generally averaging 900 to 1000 pounds of seed cotton to the acre, whilst in 1829 it produced 1122½ pounds seed cotton per acre; the last season was indeed an exception; but even then, although we had in this section of the state no rain for eleven weeks, at one time, and that in the months of June, July and August, yet my manured land produced more seed cotton per acre, than the same quantity of any other of the unmanured land I planted—from this I infer, that if the land is well prepared, and the manure sufficiently covered, it is not more subject to be effected by dry seasons than unmanured land. But to proceed—as I conceive that the form and situation of the cow-pen and dungstead is of more importance than is generally imagined in facilitating the making, and hastening the fermentation of the manure, it may be of use to state that mine is an oblong square, 200 feet in length from north to south, and 60 wide from east to west; it is situated on the southeast side of a rising ground, the top of which is covered with young spreading trees; in addition to which are stables, corn and shuck-houses, together with a cow-house, and other buildings, all on the same side, which completely shelters it from the north and west. Along the lower, or east side, is an excavation or dungstead 16 feet wide and 2½ deep, and on the outer side is run a post and rail fence on the top of a bank of earth thrown up out of the dungstead 2½ feet high, the fence is between five and six feet high; hence, from the bottom of the dungstead to the top of the bank is between four and five feet, to which add the height of the fence, and an idea can easily be formed of the favourable situation in which the manure is placed, when hauled down into the dungstead to promote fermentation. The upper side of the dungstead is gradually sloped down, so as to admit the carts or wagons when loaded to ascend with ease; consequently the manure can be loaded into the wagons, without removal, and hauled immediately into the field; thus expediting the operation, which at this busy season is of no little importance. I have only to add, that there is an open drain 18 or 20 inches deep, made along the upper side of the pen, to convey or carry off any water that runs down from the higher ground during rainy seasons, thus only that which falls on its surface gets into the pen, and after oozing gradually through the dung and litter spread over it into the dungstead, is absorbed by the manure, and serves to hasten its decomposition. It will be observed, that after deducting the width of the dungstead there is only forty four feet in breadth left, hence that is the greatest distance necessary to have the manure when sufficiently trampled into the dungstead; this makes the labour comparatively easy, and as this operation has to be repeated at least five or six times during the winter, it is a great saving of time, and, in my opinion, gives a decided preference in favour of the oblong over the square form of a cow-pen, for accelerating the making and hastening the decomposition of the manure; the size of the cow-pen ought of course to be in proportion to the quantity of stock kept; mine is only about thirty head; but the better way is not to make it too large, as, in that case, the litter and droppings from the cattle scattered over too great an extent of surface, is too much exposed to the action of the sun and air, and its strength exhausted by evaporation, but on this subject every man can judge for himself.

Having sufficiently described the situation and form of the cow-pen, I will next proceed to state the time I begin to haul in materials, and the manner in which the manure is made. I generally commence to cart and haul in corn stalks early in November, and as the cotton picking is finished I pull up the stalks also, and carry them into the pen, spreading them over it as regularly as possible; this, together with leaves and other vegetable matter convenient, with the refuse of the food given to the cattle, say shucks, oat and wheat straw, pea vines, &c. are, after being sufficiently trampled by the cattle, and saturated with the dung and urine, hauled down with dung forks and hoes into the dungstead; the dung from the stables is also weekly carted out and spread over it, and at times rich earth is carried and spread over the whole mass three or four inches deep, the surface of the pen is then again covered as before with the like materials, and in due time hauled down into the dungstead, thus alternately bringing into the pen fresh materials, and after being sufficiently trampled, removing them in like manner, to be replaced by others; always observing, as far as practicable, to remove the manure into the dungstead the next day after rain, or as soon after as it can be done with comfort or safety to the health of the negroes employed. Pulling up cotton stalks I also regulate in the same manner, as a hand can pull up two acres immediately after rain, with more ease than half an acre a week hence; it is also of use to have the materials ready to spread over the pen as soon as the trampled manure is hauled into the dungstead; this is not only a saving of food which would otherwise in part be lost, but by having the pen covered over with stalks and other materials the same day it is cleared down, the cattle have a comfortable bed to lay on, which is no doubt very agreeable to their feelings and conducive to their health.

I have been induced to say thus much respecting the cow-pen and dungstead, from a belief of their advantages over any others I have had an opportunity of seeing, in hastening the making and fermentation of the manure.

I shall only add, that my cattle have never been permitted to leave the cow-pen, except for the purposes of going to water, since Christmas last. In a future communication, I will say a few words respecting the cow-house and milking pen, also the calf and sheep's pen attached; and then proceed to state the usual mode in which I prepare the land and apply the manure to the soil. But as this is already much too long, I shall conclude, with an assurance of my best wishes for the more extensive circulation of your useful work, and punctual payment from your numerous subscribers. Respectfully, yours, C.

Georgia, Western Circuit, Feb. 14, 1831.

(From the Genesee Farmer.)

POTATOES.

We are convinced, that according to the real value of this crop amongst us, there is none so neglected as potatoes. According to the table of nutritive matter contained in different vegetables, given by us at page 20, we calculated the produce of an acre of potatoes at 12,500 lbs. Now every farmer knows that to be far below the actual produce of an acre when well managed, and yet by the same calculation it would appear that one acre of potatoes afforded as much nutritive matter as two acres of Indian corn, calculated at forty bushels per acre, or as three acres of wheat at twenty bushels per acre. Thus the cultivation of potatoes, as far as regards the support of animal life, is of greater importance than that of Indian corn or wheat, as two or three to one. Now all these crops are raised as food either for man or beast, and the one that will produce the greatest profit, of course is the one which will be cultivated by economical farmers.—In order to make a comparison of the profit of these different crops, we must assume some standard price for the produce, allowing the rent of land to be the same, and for the convenience of calculating we will allow the expense of raising each crop and carrying it to market to be equal. We will assume prices which will correspond with the market prices of this village for the last season, viz. potatoes 25 cents, corn 50, and wheat one dollar per bushel, and the rate of produce to be—wheat 20 bushels, corn 40 bushels, and potatoes 250 per acre. The amount of each acre will stand thus:—potatoes $62.50, wheat $20, Indian corn $20; making the produce of one acre of potatoes greater than three acres of either of the other crops.

We are aware that many will say that this calculation will only hold good in the neighborhood of large towns; to which we reply, that if it is profitable to fatten hogs with corn, which most of our farmers do, then it must be trebly so to feed them with potatoes, and the pork can be carried to market at the same price. Again, it may be said that wheat, when raised and thrashed out, is ready for market. This we grant; but calculate this is generally fifteen months after the crop was sown, and eighteen months after the preparatory labor for the crop was commenced, and of course the land for wheat can only produce a crop once in two years, whereas for corn or potatoes one crop can be produced annually. As for the situation in which land is left after taking either of the three crops from it, no one will hesitate to pronounce in favor of that which produced the potatoes. Much has been said in favor of turnip husbandry, but as we are convinced that one acre of potatoes is equal to ten acres of turnips, we shall never trouble our readers much with that subject, unless it is for raising them for the table.

We are not able to inform our readers at what precise time potatoes were introduced into the gardens in what is now the United States, but the following extract from Lewis' History of Lynn will give perhaps as correct ideas as to the time and size of the tubers at the time mentioned, as any thing that can be found on the subject:—

"About the year 1718, potatoes were first introduced into Lynn. A man received two or three, which he planted; and when he gathered the produce a few of them were roasted and eaten merely for curiosity; the rest were put into the shell of a gourd, and hung up in the cellar. The next year he planted them all, and had enough to fill a two bushel basket. He knew not what to do with so many, and gave some of them to his neighbors. Soon after, one of them said to him—'well, I have found that potatoes are good for something. I had some of them boiled, and ate them with fish, and they relished very well.' It was several years after this before potatoes came into general use, and then only in small quantities."

Dr. Belknap, in his *History of New Hampshire*, states that the first potatoes ever raised in New England, grew in the garden of Nathaniel Walker, of Andover, in 1719. From the agreement of these records, we may suppose that that was about the time of their introduction, and they are described by all as being very small—agreeing with Lewis' account that the produce of several might be put in a gourd shell. Every person of observation has noticed the great improvements that have been made with this valuable root within a few years, both in size and quality; and we know of no good reason why these improvements may not be continued, if proper attention is paid to the introduction of new kinds from seed. The idea that potatoes run out or die by old age, we conceive to be incorrect, as we attribute the disappearance of old varieties to the introduction of new and improved ones; and the theory that the tubers will become mixed by being planted together in hills, is equally unfounded, as it is only by the mixture of the farina or pollen of the blossoms that new varieties are produced.

The best method of planting potatoes for field culture is in drills, as the produce will be from one quarter to one third greater than when planted in hills, and the expense of cultivating is not increased; in short, we think it does not require as much labor for planting and hoeing an acre in drills as when they are in hills, as the trenching and covering may be done with a plough, when the ground is mellow, as perfectly as by hand. After the ground has been planted sufficient time for the sprouts of the potatoes to have nearly reached the top of the soil, they should be harrowed with a light harrow lengthwise of the rows or drills; this will loosen the top of the soil and kill all the weeds as effectually as hand hoeing, and a man with a pair of horses may dress out ten acres in one day—after which one dressing with a plough will be all that is required. But where land is full of sods and grass, we would recommend planting in drills and allowing them to remain unhoed until the tops are at least six inches high, then turn in sheep and allow them to remain until they have eaten all the grass and weeds close, which they will do before they feed upon the potato tops; after which they should be well hilled up with the plough, and the hoeing is completed. By either of the above methods of cultivation, an acre of potatoes can be raised with less labor than an acre of corn.

In selecting varieties of potatoes for cultivation, regard should be had to the uses to which they are to be applied. If they are designed for market or for family use, the quality should be considered of greater consequence than the quantity; but when they are for feeding of stock, quantity enters largely into the calculation. We subjoin a list of some of the most valuable varieties cultivated in this section of country, with their common or local names, and their qualities which recommend them. First, we will select a few kinds for the table, omitting some of the early frame potatoes, which we consider rather as a matter of curiosity than profit, as we consider old potatoes well kept superior to any of the small early ones we have ever seen, as they are generally watery and insipid.

The Mercer Potato.—This is one of our best potatoes for family use. It was first produced by a Mr. Gilkey, in Mercer county, Pennsylvania. It is rather long and flat in shape, with many eyes. Its color is white, tinged with a pale purple on the tip end, from which circumstance it has been called by some the blue nose. When cut in two, a circle of the same color of the tip end is discovered round the centre. It produces very well, and is one of the most valuable kinds for the supply of the kitchen during the spring months. When boiled, it is white and mealy and of excellent flavor. It has been called by several names, as the Nephannocks, Moshannocks, Blue Noses, and Chenango—all meaning the same potato.

The Pink-Eye.—This is a potato which was lately introduced into this country from Ireland. In shape it somewhat resembles the Mercer, but not quite as long—perhaps might be called kidney shaped. It has but few eyes, which are not deep, but are surrounded with a delicate pink color. They are very smooth on the skin, and are liked by the cooks as being easy to clean. In this section they produce tolerably well, and arrive at double the size they do in Ireland, but we do not think them so fine in quality as in that country, but they are certainly a first rate potato here.

The Salt St. Marie, or Black Kidney.—These are local names given to a middle sized potato, recently introduced into this section of country from the place after which we have named it. It is one of the finest potatoes with which we are acquainted. In shape it is a flattened cone, with very few eyes, which are small and but little indented; the skin, which is a dark purple, becomes considerably checked and rough, from which circumstance we have been led to conclude that it is the same one cultivated near Boston, called there the Black Rusty Coat. It produces well, the vines continuing green until killed by frost. Having cultivated more than thirty kinds of potatoes, we recommend the three above as being the best assortment for the table that is grown in our country. For feeding to stock, we would recommend the orange potato, which is so generally known that it needs no description, and the large round flesh-colored, which bears a close resemblance to the former except in color.—They are both early potatoes, and we think will produce more than any other kinds with which we are acquainted. Either of these two kinds can be taken off the ground in sufficient season to follow them with a crop of wheat. They are both very good early potatoes for the table, but are apt to become hollow at the centre when kept late.

(From the Southern Agriculturist.)

Account of the Mode of Culture pursued in cultivating Corn and Peas.—*By St. John's Colleton.*

Mr. Editor,—Some time ago I promised to give you an account of my method of making corn. The land on which I plant, is of a thin, or rather loose soil, and in the common and old way of planting corn, five feet apart, or five feet square, on my land, could not possibly average me over twelve bushels per acre. But for the last four years I have twenty-three beds in the task, or quarter acre, and plant on the beds, from hill to hill, three feet apart, leaving two stalks of corn in each hill, and my corn crops have averaged from eighteen to twenty-two bushels per acre. I have never been enabled any one year to manure all of my corn, indeed but a small part. In 1828 we had a most trying season for early corn, for the weather was dry in the month of May, and much more so in the month of June, and withal, my corn never "fired" within; I shall distinctly state, that only about fifteen feet all around the field of corn did "fire." I was present all the time, and had an opportunity of seeing it every day until the fourth day of July, when I left for my summer residence. To the best of my recollection, the corn was in tassel from the 9th day of June until the 1st day of July before we had rain, which eventually saved it. But I have digressed a little, and should have said a little before, that I could never account for the corn not "firing" within, unless it was that the sun never shone on the earth, and that the earth was always shaded by the closeness of the corn. I have tried the distance of a foot and a half, and two feet apart, and leaving a single stalk in a hill, but never have had so good an average of corn, as when I plant three feet and leave two stalks. The last year a neighbour of mine planted ten acres, (I understood him to say,) of swamp land agreeably to my method, and when the corn was harvested he informed me that he had made from it upwards of forty bushels to the acre. Thus was he so pleased with my method, that he said he would never again plant corn in any other way. Another, and an adjoining neighbour, who plants largely, planted part of his crop agreeably to my method, said to several of his neighbours, that he would have to build an additional house to put his corn in, for that he had never before made so much.

On the subject of peas (cow peas,) I can only inform you, that for the last five years I have always made an abundance from being planted in among the corn. Previously, or for six years before, I could not succeed in making peas from the corn field, by planting in hills. Some years I scarcely made more than seed for another year; but since I have adopted the latter method of drilling them just under the roots of the corn, and on the side (east side,) of the bed, I never have failed in making large crops. My time for planting depends on the advance of the season—if the season is early, I plant from the 25th to the 30th of June, and if the season be not so early, I plant between the 1st and 10th of July.

Respectfully, yours,

February 9, 1831. St. John's Colleton.

PRESERVING GRAIN.

A discovery of considerable importance has been announced, with regard to preserving grain. To preserve rye, and secure it from insects and rats, nothing more is necessary than not to fan it after it is threshed, and to stow it in the granaries mixed with the chaff. In this state it has been kept more than three years, without experiencing the smallest alteration, and even without the necessity of being turned to preserve it from humidity and fermentation. The experiment has not yet been made with wheat and other kinds of grain, and they may probably be preserved in chaff with equal advantage.

[*United States Agriculturist.*

HORTICULTURE.

HERBEMONT'S MADEIRA.

Mr. Smith: *Columbia, S. C. May* 27, 1831.

Dear Sir,—In No. 9 of the current volume of the American Farmer, noticing the grape seed I sent you for distribution, I observe with regret that you give me credit for having originated from seed the valuable grape, designated "Herbemont's Madeira." This error, although not of much consequence, ought to be corrected. A man ought to be satisfied with his due, fortunate if he gets it, and I ask no more. I found this grape cultivated here in gardens when I first came to this place. I believe it was called "Madeira grape." It is the same known in Georgia by the name of "Warren and Warrington grape." I have not been able to trace it back to its origin, though for a long time I was inclined to think it came from Madeira. Having received it several times as a native grape, and some other reasons not necessary to be detailed here, induce me to believe it one of the many valuable plants brought to cultivation from our native forests. No later than yesterday I was informed by a very respectable and intelligent gentleman from Georgia, that it was believed in that state to be a native, he thought of North Carolina. A gentleman who resides a few miles from this place gave me last year cuttings of a vine which he found on his plantation where he does not suppose it can have been planted, and it proved to be the very same grape. I am not yet, however, fully satisfied on this subject, because I also got it from a gentleman who called it a "Spanish grape," though it is possible or even probable that in this he is mistaken. If any of your numerous readers can throw any light on this subject, many of your subscribers, as well as myself will be much gratified to know the origin of a plant that bids fair to be a source of wealth and enjoyment in this country.

I am not aware that I ever said any thing which could have led to the belief that I had raised this grape from the seed. I have sown seeds of it, and I shall probably know the result next year. As to its being called by my name, I really do not know who named it thus first. I have taken great pains (and expense) to propagate it and extend its cultivation by sending it into various parts of the United States, and many persons in writing to me designated it by my name, probably only to distinguish it from the numberless grapes called "Madeira" every where throughout this country.

I am, very respectfully, dear sir, your obedient servant, N. Herbemont.

(From Blackwood's Magazine for April.)

SIR HENRY STEUART'S THEORY OF TRANSPLANTATIONS.

(Continued from page 93.)

Sir Henry, after stating many facts and reasonings, observes, that the only rational theory of the removal of large trees consists in prospectively maintaining the same harmony between the existing powers of the tree, and the exigencies of its new situation, as had previously subsisted between its relative properties and the circumstances of its former site. This is the only rule founded on the principles of vegetation that can apply to all circumstances and all situations. In illustration of this rule, Sir Henry enters into the following interesting and beautiful details:—

"Let us have recourse to ancient forests and woodlands, or to parks long since planted, in which the hand of man has either never interfered, or where the vestiges of his interference have been long obliterated. Here we shall find trees in every variety of situation, but endued with properties of the most opposite sort. Yet all grow, with relative luxuriance, under the circumstances in which they are placed. Of trees in the interior of woods, setting aside all technical or phytological distinctions, the following are found to be the general characteristics: stems upright and stately; bark glossy and beautiful; tops small, and thinly provided with branches; with roots, in the same way, spare and scanty, but in due proportion to the tops. In open exposures, on the other hand, the reverse of this is the case. The characteristics of these are the following; stems stout and short; bark thick and coarse; tops extensive and spreading; branches often reaching to the ground; with roots extensive like the tops, and throwing themselves out on every side. What, then, are we to conclude, from these remarkable discrepancies between trees of the same species, although in different situations, but that nature, which orders nothing in vain, has bestowed these properties for wise purposes, and that they are the best calculated, respectively, to realize, in those trees, as great a complement of life, as their respective circumstances will admit?

"This conclusion naturally leads us to a closer attention to the progress of wood, than is usually bestowed upon it. In infancy, that is, in the seed-bed, or nursery-ground, we find, that all plants of the same sort are alike, or nearly so. But, in a year, and, still more, in many years, when they go out to form plantations, they experience a great diversity of treatment, and are placed in soil of various qualities, and in various degrees of exposure. To these vicissitudes the plastic powers of plants, in process of time, accommodate themselves; so that in point of form, character, and properties of every sort, they must essentially vary from one another, and acquire the properties, most suitable to such soils and situations. It is for this reason, that, to establish any just analogy between the transplanting of young trees, and the transplanting of old, is utterly impossible; because the circumstances in both cases being changed, the subjects under their influence change in consequence.

"In considering the characteristics of trees above mentioned, we should always bear in mind, that every production of nature is an end to itself, and that every part of it is, at once, end and mean. Of trees in open exposures we find, that their peculiar properties contribute, in a remarkable manner, to their health and prosperity. In the first place, their shortness and greater girth of stem, in contradiction to others in the interior of woods, are obviously intended to give, to the former, greater strength to resist the wind, and a shorter lever to act upon the roots. Secondly, their larger heads with spreading branches, in consequence of the free access of light, are formed as plainly for the nourishment, as well as the balancing of so large a trunk, and also for furnishing a cover, to shield it from the elements. Thirdly, their superior thickness and induration of bark, is, in like manner, bestowed for the protection of the sap vessels, that lie immediately under it, and which, without such defence from cold, could not perform their functions. Fourthly, their great number and variety of roots are for the double purpose of nourishment and strength; nourishment to support a mass of such magnitude, and strength to contend with the fury of the blast. Such are the obvious purposes, for which these unvarying characteristics of trees in open exposures are conferred upon them. Nor are they conferred equally and indiscriminately on all trees so situated. They seem, by the economy of nature, to be *peculiar adaptations* to the circumstances and wants of each individual, *uniformly bestowed in the ratio of exposure*, greater, where that is more conspicuous, and uniformly decreasing, as it becomes less.

"On the other hand, in the interior of woods, a universal tendency, for the reasons already stated, is observable in trees, to rise to the light, to attain greater altitude, to form far smaller heads, and taller, slenderer, and more elegant stems. Here is found a milder and more genial climate; in which, by means of the calm generated by shelter, vegetation is not checked by cold, and, at the same time, is undisturbed by the eternal impediment of wind; and nature has no need, as in the case of exposures, to generate provisions necessary to mitigate the effect of evaporation, as has been above observed, or to endue each individual tree with distinct and appropriate means of defence against the elements. In this situation, the branches, and, in like manner, the roots, are much less extensive and numerous, than in the former instance, and the bark of a thinner and finer quality; all plainly indicating, that the trees so situated do not require the same external protection. It is like the genial warmth of the seed-bed, or the nursery; but where the roots have freedom to expand without interruption, and the leaves to prepare the sap, without being vexed by the winds. In fact so extraordinary is the difference between trees of the *same* species, placed in the one situation, and in the other, that there is no visible mark of resemblance between them, excepting the leaves. We may, however, perceive, that, as soon as the tops gain the summit of the wood, their branches are shortened towards that quarter, and both branches and spray are more thickly thrown out, to supply a defence against the storm. Further, we find, that the outside rows, partaking, in some measure, of the situation of trees in exposures, obtain, in a proportional degree, the provisions adapted to such a situation, and, by consequence, a corresponding conformation and external character. In the same manner, we may observe, that, if a tree of some size, which, in consequence of exposure, has *acquired* all the properties already noticed, as adapted to that situation, be transferred to the interior of the wood, it will, in a few years, *lay aside* those properties, and *assume* all the others which have been described, as peculiarly adapted to its new circumstances. Thus, the law of nature seems to be, that shelter and exposure, that is, heat and cold, have the power alike of diminishing or increasing, of bestowing or taking away, what may be called the protecting properties."

From these and other facts, it appears that there are certain distinct qualities or properties in trees, (for the sake of practice, called by Sir Henry protecting properties,) which are conferred on them by nature, and which render them fit for resisting the influence of the elements in exposed situations; and that there are certain other properties, termed the non protecting, which render them unfit.

Sir Henry's first experiments, made many years ago, were on subjects taken from plantations where the trees grew close together, and were therefore straight and tall, without many lateral branches. They failed in a few years almost entirely—grew sick, withered away, and died. He next tried trees standing in open glades, or grovewood, which had been thinned out to wider distances, in hedge-rows and the like, where the sun and air had free admission. But hear Sir Henry himself.

"The trees in general, here exceeded twenty feet height.—Their stems were stouter than those used in my first experiments. Their bark had none of the fine and glossy surface belonging to that of the others. Their heads were beginning to assume a more spreading form, and were tolerably well balanced. The roots, in some, were numerous, but, in others, scraggy and straggling, according to the nature of their previous rooting-ground, and the degree of exposure, in which they had stood.

"The plants from the hedge rows, of course, exceeded all the others in the possession of those properties which I began to suspect were most essential; and they would have been the best subjects of any, had not their roots grown in a perpendicular direction, in consequence of the high mound of earth on which the hedge had been planted. But the tops of the whole I now resolved to leave entire and untouched, notwithstanding the universality of the lopping practice, and confident opinion entertained, that it was indispensable to success.

"At this early period I possessed little skill in the business of preparing or taking up the trees. I had no implements beyond common spades and shovels for the latter purpose; neither had I any proper machinery for safe and speedy transportation. A number of men, however, being set to work, sledges, trundles, carts, and even wheelbarrows were pressed into the service; by which methods a few were removed with difficulty, and at a considerable expense.

"Some years after this I tried other subjects from forest glades, or open spaces in the interior of woods, where the trees were much taller and handsomer. Their disposition having been pretty open, and the lightness of the soil affording good rooting ground, their roots and fibres had struck more abundantly than in the other subjects just now mentioned. Their bark likewise appeared more sound and healthy, and free from the coarse and rugged surface which was remarkable in the hedge-row plants. For these reasons they were the subjects from which I anticipated the most certain success. This took place more than thirty years ago.

"It may easily be imagined, that in these rude attempts many deaths occurred, and that a small number only outlived the operation; but the lessons which were derived from them, after standing on the open ground for four or five years, were very instructive. I shall most probably surprise the young planter, (as, indeed I was surprised myself,) by stating, that those which I then found to succeed the best, were not what had shown the most numerous roots, as was conjectured, but what had acquired the thickest and coarsest coat of bark, and possessed the stoutest stems, if accompanied with branches and spray pretty thickly set. In the second place only came the plants from woody glades of which the roots were so promising, and seemed to confer on them so great a superiority. In other words, it appeared to me that the success of the trees, their new situation and soil being equal, was *in the ratio of their previous exposure*, and their consequent power of protecting the sap-vessels; which power seemed always commensurate to exposure."

Sir Henry found that it might be safely assumed as a rule, that the success of the planter in this art would be in the actual proportion in which his subjects possessed, 1st, Thickness and induration of bark—2ndly, Stoutness and girth of stem—3dly, Numerousness of roots and fibres—and 4thly, Extent, balance, and closeness of branches; on all of which he expatiates with great animation, and complete knowledge of the subject; but it is impossible for us to follow him into so many interesting and instructive details

Hitherto it has been Sir Henry's object to show the importance of four main properties or prerequisites which trees should possess, to render them fit for removal to exposed situations. The principle adopted for a new theory of the art, is therefore founded on the laws of vegetation, and the researches of the most eminent phytologists. It overthrows, at once, the Mutilating System; and, in opposition to that, may be called the Preservative. The following animated and eloquent, yet we verily believe not overdrawn comparison of the two systems, will be read with great interest and pleasure by all lovers of trees:

"We will suppose that a planter, according to the mutilating method, is to remove, to an exposed situation, a tree eight and twenty or thirty feet high, three feet and a half in girth, (or fourteen inches in diameter,) at a foot from the ground. We will suppose further, that it displays the most perfect symmetry of form, having an expansion of top from five and twenty to eight and twenty feet, with boughs descending to within three or four feet of the ground. Such a tree we may consider as a very handsome subject, and such as has frequently been removed at this place.

"Having prepared the roots according to Lord Fitzharding's method, three or four years before, and taken them up as well as he can, perhaps seven feet out from the stem, (which, according to Marshall, is well rooted for its height,) we will suppose that this planter then proceeds to lighten and lop the top, in order to reduce it, as the same intelligent writer recommends, 'to the ability of the roots.' We will, moreover, take it for granted that he deals mercifully with this beautiful tree, and cuts away only a half or a third part of its boughs, and thus transfers it to its new situation. Under these circumstances, we may presume that some props or fastenings, whether of wood or cordage, may be requisite, especially about the equinox, to preserve the tree in an upright position. Now, will not all the evils ascribed by Miller to the mutilating system, independently altogether of picturesque considerations, begin to assail it? Having the roots and top (which are both conservative organs,) curtailed and injured at one and the same time, the supply, not less than the preparation of the sap, is completely impeded. From the obvious want of leaves sufficient to elaborate the sap, and the as striking want of branches to communicate nourishment to the stem, and ultimately to the roots, the whole tree, in most instances, becomes stunted and paralyzed. Pale and yellowish tints supply the place of a deep and healthful verdure of foliage, and the larger boughs, as well as the light spray, gradually decay and drop off. Even in cases which are the most eminently successful, and where the tree fortunately escapes these mischances, ten years at least, as I conceive it, in the best English climates, and fifteen and twenty years in the northern counties, and in Scotland, are scarcely sufficient to replace the amputations with fresh wood, and to restore the tree to its natural health and strength.

"What, we may ask, have now become of its fine symmetry of form, its characteristic and ample top, 'its happy surface (as Gilpin expresses it,) for catching great masses of light?' What also has become of the fair promise which before removal it held out, of enduring vigor, and of sound and healthy wood? All these are gone, as Miller truly states; all are utterly annihilated by the rude assaults of the axe, which has left no remaining trace of their existence! The most prominent and characteristic features of the species, which mainly reside in the top, have disappeared also by the same process: for, even when such trees do succeed, and acquire the formal and *bush-like* head, common to all that are removed after the mutilating method, 'it is seldom,' as Pontey observes, 'that they harmonize with any thing about them.' On comparing them with plants raised from the nursery, or the seed, we perceive but a small saving of time in favor of this system: yet it is time saved, with the sacrifice of such advantages, as to render it any thing but desirable to the planter of taste.

"On the other hand, we will suppose the same planter to transfer a tree of a similar description and dimensions, to a situation of similar exposure, but according to the preservative method. This tree, being a subject of uncommon beauty, as above described, and having a head of more than five-and-twenty feet broad, strong roots, of fourteen and fifteen feet of a side (instead of seven) are taken up with it, together with abundance of the minutest fibres, after a peculiar method, to be explained in the sequel. Instead of lopping and defacing the top and side branches, the whole are left untouched, and their fine symmetry is preserved entire. Transportation of the tree to its destined site then follows; where, after being replanted according to a similar method, productive of stability in an extraordinary degree, it is found capable of resisting the wind, on the simplest principles, namely, the peculiar length and distribution of the roots, and the balance of an extensive top, from whatever quarter it may blow.

"During the first spring, when the sap begins to flow abundantly upwards, if no severe frost supervene, to cut down the slender spray of the top, not a branch or a twig is found to decay. The sap ascends, by means of adequate roots, in a sufficient quantity for the support of both, and for enabling the leaves to perform their elaborating functions. The leaves, therefore, though of a lesser size, and sometimes a lighter colour than usual, during the first season, universally clothe every part. After the first, or, at all events, after the second year, under common circumstances, the deep hue of health, and the fulness of leaf which the tree formerly displayed, again return; and, while its foliage glitters in the sunshine, or floats on the breeze, no eye can distinguish whether it has been two years, or forty, in its new situation. Picturesque effect or shelter, as the planter's object chances to be, is, in this way, *obtained from the first*. But no planter of experience will expect shoots of much consequence to appear till the tree be established in the ground. This, of course requires four or five years at least in the climate of Scotland; after which it usually shoots forth with vigour; and the *longer it stands* it will shoot with the *greater vigour*, as the experience of more than thirty years has incontestably proved. By this statement, then, it appears that the preservative system has, in *this* country, the power of saving, and, in some sort, of anticipating *forty years of the life of man;* a large portion, in any view, of that uncertain possession: And thus, by following such a system, the immediate and full effect of wood is at once procured, at a moderate expense, as shall be made apparent in the sequel."

(To be continued.)

MISCELLANEOUS.

How to Teach Children to Teaze.

Children are taught to teaze, very much as they are taught to cry. With all his little wants, real or imaginary, the child runs to its mother. They are matters of importance to him. He wants a definite and decisive answer—one which will settle the question; and his mind will be on the rack till he has it. It is not in the nature of the child to feel otherwise. He will have no peace himself, and will therefore give his mother no peace, until he understands and knows that the point is settled, and how it is settled. If you give him no answer till he has spoken ten times, he will speak ten times; and then if he has any reason to suspect that speaking twenty times more will obtain an answer more favorable to his wishes, he will speak twenty times more. And this will soon grow into a habit. But give him an answer the first time he speaks, and he will not be obliged to speak a second time to obtain one; and never alter your decision for his teazing, and he will soon give it up, as of no use. If you have leisure, and the occasion seems a proper one, you may let him argue his case before you decide it, but not afterwards. Indeed, if he has learned by experience that your decisions are final, he will seldom, if ever, attempt it. He will consider an answer as an answer. His mind will be at rest on that point, and soon find something else with which to amuse himself.—*Vermont Chron.*

A respectable gentleman in a neighboring town informs us, that during the cannonading of the battle of Bunker Hill, he was feeding a brood of goslings about six miles from Charlestown, and that all the goslings turned on their backs and died. The gentleman was then a boy, and was much puzzled by the mysterious occurrence.—*Salem Gazette.*

The Tartars have a singular manner of drawing water from a great depth. A long rope, with a large leathern bag (kept open at the mouth by a hoop,) is let down into the well: the end is fastened to the saddle of a mounted Tartar, who rides off. and by this means draws the water from the well; a person in attendance empties the bag while the horseman returns, and repeats the process as often as may be required.

THE FARMER.

Baltimore, Friday, June 10, 1831.

PENNSYLVANIA HORTICULTURAL EXHIBITION.

This most splendid exhibition took place in Philadelphia on Wednesday and Thursday, 1st and 2nd of June, at the masonic hall in Chestnut street, and was one of the most rich and beautiful collections of rare plants and flowers ever seen in the United States. For five or six weeks previous there had been no rain in the vicinity, and in other respects the weather had been most unfavorable for the growth of vegetables, it having been very dry and occasionally cold till within the last week, when it became excessively hot, the thermometer ranging in the afternoon of the last day of the exhibition at 98½° in the shade. Under these circumstances, it will surprise no one to be informed that the display of culinary vegetables was very limited. Yet there were a few excellent things, such as cauliflowers thirty inches in circumference, fine strawberries, globe artichokes, cherries, seakale, rheubarb, cabbages, cucumbers of full size and fine, beets, onions, turnips, a very large head of Malta lettuce, gooseberries, and potatoes. There was also a bunch of rye not yet in flower eight feet in height. Another thing operated unfavorably on the exhibition of vegetables. There appears to be little disposition on the part of vegetable gardeners to exhibit their produce, as was easily discovered from the small number and quality of contributions of that class, compared with the supplies in the common market.—This is an evil which will be gradually overcome, for the beneficial effects of such exhibitions on the interests of gardeners as well as the citizens at large will soon be made apparent to the most incredulous.

The display of exotic and indigenous ornamental plants and flowers was rich and splendid. Besides the more common trees, such as orange, lemon, lime, oleander, and pomegranate, of which there were numerous varieties and splendid specimens, there were hundreds of the more rare, curious and beautiful. If we name but few it is because of the impossibility of taking note in detail of such an immense collection, and therefore memoranda of the most prominent objects only were taken; but if we were to give the names of even these, we fear the catalogue would tire many of our readers, and we shall only select the following:—Eryabotrya Japonica, Aucuba Japonica, Andromeda coriacea, Acacia floribunda, Daily Rose, Dodonœa viscosa, Datura arborea, Daphne, Eucalyptus Salisafolia, Magnolia fuscata, Eugenia myrtifolia, Olea Europea (the olive tree) Olea buxifolia, Ficus Elastica, (gum elastic tree,) several from 8 to 15 feet high, Meloleuca diosmifolia, Cactus octangularis, (about 10 feet high, four stems 5 to 8 inches diameter, a most magnificent plant.) Laurus camphora (camphor tree) Petargonum trista, Rhododendron ponticum, Pistacia terebinthus, Mangofera indica (mango tree,) Cupressus australis, Caffea arabica (coffee tree, several 5 to 8 feet high, and full of berries,) Hibbertia volubillis, Arbutus uneda, (strawberry tree,) Magnolia grandiflora, Ilex variegata, (several beautiful specimens,) Metrosideros saligna, Carolina princeps, (cream nut tree) Maranta Zebrina, (a beautiful parlour plant,) Pitcairnia, numerous Cactus, sent home by Mr. Poinsett from Mexico, and unnamed, Cactus Spiciosus, Calathea Zibrina, Zamia horrida, Cactus melocactus, (numerous, and curious) Cycus revoluta, (Sago Palm, several, and probably the largest in this country,) Phormium tenax, (New Zealand flax) Cressula tuberculosa, Sarracenia purpurea, Pothos lanceolata, Cactus philanthoides, Bromelia ananas, (Pine Apple plant) Laurus Persea (alligator pear,) Euphorbia quadrangularis, Clematis florida, Azalia coccinea, petes porum undulata, Saccharum officinarum (sugar cane,) Yucca aloifolia, Gardenia florida (Cape Jasmine,) Green tea plant, Dracœna ferrea, (dragon tree) Eugenia Jambosa, (rose apple) Yucca gloriosa, Fushia coccinea, geranium grandiflora (8 feet high and spreading several feet in width,) Agapanthus umbellatus, Melastoma trinerva, (curious) Kennidia bimaculata, Aster moschatus, Piper nigrum (Black pepper tree) Aster argophyllus, Taxus Sinensis, (Chinese yew) Quercus suber, (cork tree) Melianthus major (10 feet) Begonia argyrostigma, Salvia tricolor (three colored sage,) Ficus vastita, Chamerops Palmeto, (cabbage tree of South Carolina) Strelitzia pumela, Begonia, macrophylla, Westringea rosmarinifolia, Ardesia solanacea, Laurus Cassia, (cinnamon tree) Mammea Americana, West India Apricot tree, nandina domestica, Myrtus tomentosa, Calicoma serratifolia, Pandanus Utilis (screw pine,) Fan palm, Cymbidium sinensis, Ardesia crenulata, (four feet high,) Aspedum exaltatum, Ficus nitida, Thea Bohea, (Bohea tea tree) Phenix dactyliferea, (date tree,) Zamia fulgens, maranta arundinacea, (arrow root plant) Myrtus pimenta, (Allspice tree) Passaflora alata, (a splendid Passion flower) Japan evergreen honey suckle, Metrosidorus semperflorens, Cactus pereskia, (Barbadoes gooseberry) Musa coccinia, (Bannana plant) sempervivum arboreum, tree house leek, Crassula falcata, seedling Cactus, Cactus Braziliensis, notched Cymetar leaved fig marigold, Cactus mamilaris with forty shoots, musa sapientum, (Banana, another variety) Lychnis grandiflora, carnations, Sarracenia, Phlox, splendid Chinese Pæonies, Whitleji, humei, and fragrans, purple and white Foxglove, Amaryllis, Johnsonia, and a seedling from the purpurea and a Brazilian amaryllis.

Of cut flowers the display was brilliant beyond conception, but it is impossible to give any thing like a list of them. The roses, pinks, canterbury bells, phloxes, azalea (one splendid new native variety) stocks, and a thousand and one others, comprising the beauty and fragrance of Flora's dominions, were dispersed among the plants and shrubbery in tasteful order, and contributed largely to the splendor of the scene. Besides all these, numerous singing birds were perched among the shrubbery in cages, and enlivened by their joyous notes the imposing spectacle. There were also a beautiful cabinet of shells and minerals, a cage containing the great American eagle, a couple of large horned owls, numerous preparations of other birds very naturally perched upon the shrubbery, and a beehive with a glass top and sides with the bees at their work in full view.

We know that we do injustice to the exhibition by this imperfect sketch, but an apology will be found in the very limited opportunity afforded for taking notes in such a crowded assemblage. There were numerous objects worthy of especial notice of which it was impossible to take memoranda.

The shrubs, plants and flowers, were tastefully arranged along the sides and ends of the immense hall, and on central and wing stands. At each wing there was a semi-circular stand studded with beautiful shrubbery and flowers, and crowned with a most magnificent Sago palm. The central circular stand was also crowned with a splendid Aloe. Midway of each side there were beautiful arches, clothed with rich climbing plants, and forming recesses for fruit and vegetables. On the visiter's entrance he was struck with astonishment at the brilliancy of the scene, the intensity of the odours, and the magic music of the numerous canaries. Indeed Moore's enchantress could not have wished for a better place, nor a greater profusion of materials for the weaving of Nourmahal's wreath; and on the last night she would have exclaimed:—

> " 'Tis the hour
> That scatters spells on herb and flower,
> And garlands might be gathered now,
> That, twin'd around the sleeper's brow,
> Would make him dream of such delights,
> Such miracles and dazzling sights,
> As genii of the Sun behold,
> At evening, from their tents of gold."

The visiters were numerous, and often crowded the hall to excess, notwithstanding the extreme heat. Old and young, the gay and sedate, came by hundreds to partake of this feast of flowers.—

> "And all was free and wandering.
> And all exclaim'd to all they met,
> That never did the summer bring
> So gay a feast of roses yet."

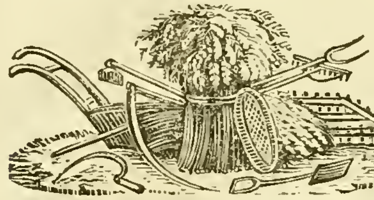
The acknowledgments of the Editor of the Farmer are due to the committee of the Horticultural Society for their polite attentions to him during his visit, and for the facilities they afforded him in viewing the hall. To Col. Robert Carr and the Messrs. Landreths he was especially indebted for their friendly attentions. Col. Carr very politely conducted him through the several public gardens in the city, and to Fairmount water-works, and the old Bartram Botanic Garden at Kingsessing, of which he is the proprietor. At this garden we had the pleasure of viewing those objects which have been the subjects of admiration to thousands of visiters; and we are constrained to confess, that the reality exceeded all our anticipations. The monuments that remain there of the genius of Bartram, require a more able pen than we can command for their delineation. Suffice it to say, that the stone work of the ancient mansion, the old cider mill, and the ponderous water basin, all the work of his hand, will not escape the notice and admiration of any who may have the good fortune to pay this relic of a former age a visit. We have much to say of the many things that fell under our notice in our hurried visit to Philadelphia, but must defer it to some future occasion. Suffice it now to remark, that visiters to that city will lose much if they neglect to visit the Fairmount water-works, one of the most magnificent monuments of a city's wisdom that this country can boast of. Nor should they neglect the new marine hospital, the new mint, the Washington square, and several others; above all, let them wend their way to Kingsessing, to the Bartram botanic garden, and by no means neglect to pay a passing tribute of respect to the little stone school-house just at the left hand as they pass the Kingsessing post-office, in which Wilson the Ornithologist laid the foundation of his future fame, while he taught "the young idea how to shoot." The very birds, as they flit among the tall oaks that overshadow the little edifice, chirp delightful music to his memory. It is hoped and believed that this grove is a sanctuary to the whole feathered race, and that here, at least, the "murderous tube" dare not enter.

Herbemont's Madeira Grape.—The letter from Mr. Herbemont in our horticultural department, corrects an error we were led into by the name generally given to this grape. We can only say, that if Mr. Herbemont is not entitled to credit for originating this excellent grape, he is richly so, for bringing it into notice and extending its cultivation. There is no more appropriate mode of bestowing honorary rewards upon such public benefactors, than by denominating the plants they have produced or brought into general use by their names. Had this always been done, History would have had a much lighter task in selecting materials than she now has. Had all of our common vegetables received the names of their original discoverers or propagators, the trouble of tracing their history would have been comparatively trifling. For instance, suppose at a future time it should become a question, who first extensively propagated the Herbemont madeira grape, the answer will be found in the name.

Prices Current in New York, June 4.

Beeswax, yellow 22 a 23 *Cotton*, New Orleans .10 a .12; Upland. .8¼ a .10½; Alabama, .8½ a 12. *Cotton Bagging*, Hemp, yd. 18 a 20, Flax 12½ a 16; *Flax*, American, 7 a 8.——*Flaxseed* 7 bush. clean .—— a .—— *Flour*, N. York, bbl. 5.25 a ——; Canal, 5 37 a 5.62; Balt. Hwd. st. 5.62 a ——; Rh'd. city mills —— a ——

country, 5.25 a ——; Alexand'a, 5.37 a 5.50; Fredericksburg 5.12 a ——; Petersg 5.25 a ———; Rye Flour, 3.75 a 3.87; Indian Meal, per bbl. 3.87½ a 4 00; per hhd. 18.00 a —— *Grain*, Wheat, North, 1.22 a ——; Vir. 1.12 a ——; Rye, North, 81 a —; Corn, Yel. Nor. 74 a 75; Barley, — a —; Oats, South and North, .42 a .—; Peas, white, dry, 7 bu. 5. Beans, 7 bu. 7.00 a 8.00. *Provisions*, Beef, mess 8.50 a 9.25; prime 5.75 a 6.25; cargo 4.62½ a 5.00; Lard, 8½ a .10½; Pork, mess, bbl. 14.50 a 15.25; prime 10.50 a 11.50.



SINCLAIR & MOORE'S AGRICULTURAL REPOSITORY.

Pratt Street Wharf.

The suggestion given in the last number of the American Farmer, relative to the propriety of publishing the prices of AGRICULTURAL IMPLEMENTS, &c. has induced us to annex them, together with a brief description of some of the different implements offered for public patronage, as far as the limits of an advertisement will admit of; these will be followed up in future numbers by other implements, with more particular descriptions of their construction and operation.

The double mould board plough alluded to in the communication of J. G. E., has a wrought shear, and is sufficiently strong for rough lands.

The Straw Cutter noticed in the letter of "A Rice Planter" to the editor of the Southern Agriculturist, is adapted to water or horse power, or to be worked by hand, and is a most excellent machine.

SINCLAIR & MOORE.

PLOUGHS.

BARSHEAR,

No. 1, without Coulter for one Horse,	$5 50
No. 1, with Coulter, for one Horse, -	6 50
No. 1½, with Coulter, light two Horse, -	7 00
No. 2, with Coulter, light two Horse, -	8 00
No. 3, with Coulter, two Horse, -	9 50
No. 4, with Coulter, two or three Horses,	11 50
No. 5, with Coulter, three Horse, -	14 00
No. 6, with Coulter, heavy three horse,	15 00

SINCLAIR & MOORE'S, (new model.)

6 inch with cast shear, a small one Horse Plough, - - - -	4 50
7 inch with cast shear, one Horse Plough,	5 00
8 inch with cast shear, heavy one horse, or two poney Plough, - -	6 00
9 inch cast shear, with sword Coulter, light two Horse Plough, - - -	8 50
9 inch cast shear, without Coulter, light two Horse Plough, - - -	7 00
10 inch cast shear, with Coulter, two or three Horses, - - -	11 00
10 inch cast shear, without Coulter, two Horses, - - - -	9 50
10 inch wrought shear, with Coulter, two or three Horses, - - -	12 00
10 inch wrought shear, without Coulter, two Horses, - - - -	10 50
12 inch wrought shear, with Coulter, three Horses, - - - -	15 00

McCORMICK'S,

7 inch wrought shear one Horse, - -	6 00
8 inch wrot. shear light two Horse with Coulter, - - - - -	8 50
8 inch wrot. shear light two Horse without Coulter, - - - - -	7 50
9 inch wrot. shear two horse with Coulter,	9 50
9 inch wrot. shear two Horse without Coulter, - - - - -	8 00
10 inch wrot. shear with Coulter, three Horse, - - - - -	12 50
12 inch wrot. shear with Coulter, heavy three Horse, - - .	14 00

SELF-SHARPENING,

No. 0, light one Horse Plough, -	$5 50
No. 1, one Horse, or two Poney Plough,	6 50
No. 2, two Horse Plough, - - -	7 00
No. 3, heavy two Horse Plough, - -	8 00
No. 5, three Horse Plough, - - -	12 00

WOOD'S PATENT,

No. 21, light one Horse Seed Plough, (with two extra shares,) - - - - -	5 00
Corn, one Horse Plough, - - do.	5 50
No. 1 A, light two Horse Plough, do.	6 00
No. 1½, two Horse Plough, - do.	8 00

CARY, or DAGAN PLOUGH, of sizes,	4 50 to 5 00
HILL SIDE PLOUGHS, - -	10 to 16 00
DOUBLE MOULD BOARD PLOUGHS,	8 to 12 00

WHEAT FANS, best improved, - -	25 00
common, - - - - -	19 00
STRAW CUTTERS, Cylindrical, - -	45 00
Do. do. extra large,	75 00
DATON'S self-feeding, with circ. knife,	20 00
EVANS' patent, - - - - -	16 00
common Dutch, with treadle, -	7 50
do. do. without treadle, -	5 00
ROOT CUTTERS, - - from	18 00 to 25 00
CULTIVATORS, for corn and tobacco,	5 50 to 6 00

HARVEST TOOLS, &c.

Grain Cradles and Scythes, - - - - -	$4 00
Grass and Bramble Scythes, -	1 25 to 1 50
Hay Forks, - - - - - -	50 to 62½
Manure Forks, - - - - -	75 to 1 00
Hay Rakes, - - - - - -	15 to 25
Composition Scythe Strickles, - - -	25
Scythe Stones, - - - - - - -	10
Hay Knives, - - - - - - - -	2 25
Sickles, - - - - - - - -	62½
Straw Knives, - - - - -	75 to 1 50
Mattocks and Picks, - - - - - -	1 50
Grubbing Hoes, - - . - - -	1 00
Hilling and common Hoes, - -	50 to 87½
Kinsey's Cast Steel Axes, - - - -	1 75
Shovels, (long and short handles,) -	75 to 1 00
Wove Wire.	
Seives.	
Mill Screens.	
Safes, - - - - - - -	$8 to 14 00

June 10.

J. S. EASTMAN,

No. 36, *West Pratt Street,*

OFFERS, at *Wholesale and Retail*, Hay and Manure FORKS, and Scythe SNEADS.—Also for sale, Grain CRADLES, and Cradle SCYTHES, Grass SCYTHE, English and American, with and without Sneads, Wheat FANS. Scythe STONES, &c. &c. Together with his usual assortment of PLOUGHS, and other AGRICULTURAL IMPLEMENTS, Garden Seeds, &c.

A fresh supply of FLOWER SEEDS, just received from the Messrs. Landreth's.

June 3.

WOOL WAREHOUSE.

LYMAN REED,

Commission Merchant, No. 195 *Baltimore street,*

Devotes particular attention to the sale of WOOL. Any consignments of the article forwarded to him for sale, can be disposed of immediately for CASH, at the highest market price.

CASH, and a fair price, will be paid for a few thousand pounds of *good wool*, (if offered immediately,) to supply orders now on hand.

Refer to Messrs. Cobb, Wyman & Co. Baltimore.

CASH FOR WOOL.

The subscriber is in this market as a purchaser of wool for eastern manufacturers, and will pay cash and fair market prices for every description of American wool.

RICH'D MESSITER,
No. 5 Light street wharf, up stairs.

May 20. 2 m.

GARDEN SEEDS of every description, warranted genuine, constantly for sale by Gideon B. Smith, office of the American Farmer.

BALTIMORE PRICES CURRENT.

Baltimore Market.—A further decline has taken place in flour and grain, owing to the continued unfavorable accounts from Europe, the advanced state of the season, and the abundance of the supply. Yesterday $4 50 was the highest price offering at the stores for Howard street flour from wagons; at which, however, millers and farmers are not generally willing to sell, and prefer storing their flour and waiting for better times. The Beef market has been *poorly* supplied for some time, but we observe some fine cattle from Ohio just arrived, which will relief our stalls of their gristly aspect. Our quotations of beef embrace the rates generally paid.

Tobacco.—Seconds, as in quality, 3.00 a 5.00; do. ground leaf, 5.00 a 9.00.—Crop, common, 3.50 a 4.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 10.00; yellow and red, 8.00 a 14.00; yellow, 14.00 a 16.00.—Fine yellow, 16.00 a 20.00.—Virginia, 4.00. a 5.00.—Rappahannock, 3.00 a 4.00——Kentucky, 3.50 a 8.00. The inspections of the week comprise 589 hhds. Md.; 32 hhds. Ohio; 11 hhds. Kentucky; and 2 hhds. Virginia;—total 634 hhds.

Flour—best white wheat family, $6 25 *a* 6.75—super. Howard-st. 4.87½ *a* 5.00; city mills, 5.00 a —; Susq. 5.00 *a* ——; Corn Meal, bbl. 2.25; Grain, Md. red wheat, 90 *a* 1.00; white do. 1.10 *a* 1.20, Susq. 1.05 *a* 1.10-Corn, white, 65 *a* 68- yellow 65 *a* 68-Rye, 65 *a* 77. Oats, .33 *a* 34. Beans, 75 *a* 80--Peas, 65 *a* 70—Cloverseed —— *a* ——Timothy, 2.00 *a* 2.50—Orchard Grass —— *a* ——Tall Meadow Oat Grass 2.75—Herd's, 50 *a* 75—Lucerne 30 *a* 37½ lb.—Barley, 62½—Flaxseed 1.25 *a* ——Cotton, Va. 9 *a* 9½—Louisiana 10¾ *a* 11½—Alab. 9½ *a*. 11—Tenn.. 9 *a*. 10——N. Car.. 9 *a*. 9½—Upland 8 *a* 9½—Whiskey, hhds 1st p.— *a* 33½—; in bbls 36 *a* ——Wool, common, unwashed, lb. 36 *a* .37——washed, .40 *a* .48-crossed, .33 *a* .37--three-quarter, .42 *a* .48--full do. .37 *a* .45, accord'g to qual.-Hemp Russia ton, $255 *a* ——; Country, dew-rotted, 7. *a* 7½c. lb.—water-rotted, 7½ *a* 8c.-Feathers, — *a* 33-Plaster Paris, per ton, 3.75 *a* ——, ground, 1.37½ *a* ——bbl.——Iron, gray pig for foundries per ton 33.00 *a* ——; high pig, for forges, per ton, 28.00 *a* 30.00; bar, Sus., per ton, 80.00 a 90.00.—Prime Beef on the hoof, 7.00 *a* 7.50—Oak wood, 3.00 *a* 3.25—Hickory, 4.50 *a* 4.75—Pine 2.00 *a* 2.50.

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Essays on Agriculture, by F. A. Ismar, No. IV.—On the Culture of Indian Corn—On the Management of the Cowpen and Dungstead—On the Culture of Potatoes; with a description of the Mercer Potato, the Pink Eye, and the Salt St. Marie, or Black Kidney potato—Mode of Culture pursued in cultivating Corn and Peas, by St. Johns Colleton—Preserving Grain—Letter from N. Herbemont on the origin and naming of the grape called Herbemont's Madeira—Sir Henry Steuart's Theory of Transplantations, continued—How to Learn Children to Teaze—Scraps—Editorial, Pennsylvania Horticultural Exhibition—Prices Current in New York and Baltimore—Advertisements.

EDITED BY GIDEON B. SMITH.

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TERMS.

1. Price five dollars per annum, due at the middle of each year of subscription.
2. Subscriptions are in all cases charged *by the year*, and never for a shorter term.
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5. Advertisements connected with any of the subjects of the American Farmer, inserted once, (seldom more) at one dollar per square.
6. All letters concerning this paper must be directed to the publishers. They must be free of postage, except communications intended for publication, and letters containing money.

☞ All Postmasters are requested to act as agents for the Farmer; they are authorised to retain $1 for each new subscriber, and 10 per cent. on *all other* collections.

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AGRICULTURE.

(From the Southern Agriculturist.)

ON THE CULTURE OF RICE.

*(Extract of a letter from Mr. Wm. B. M*****, of Wilmington, N. C. to Mr. J. Myrick, of Cooper River, with the reply of the latter.)*

"*Wilmington, N. C. January* 16, 1826.

Sir,—At a period when the science of agriculture is pursued with so much zeal, and when its votaries take so much pleasure in propagating its principles, to you, an apology can scarcely be necessary for the liberty I take in addressing to you this letter. I have read with much satisfaction the communications on Rice Planting, &c. published by order of the Agricultural Society of South Carolina. Some of the principles there laid down in the management of a rice crop, are to us, in this quarter, new: and I should be much gratified by some more minute detail of the principles and reasons for the general management of rice crops. If the task is not too great, you will confer a favour on me, and others here, by giving me, as your leisure may make it convenient, answers to the subjoined queries, with any additional matter you may think useful where the general management of rice planting is not well understood. Should it at any time and on any subject be in my power to reciprocate, I will most cheerfully do so.

Very respectfully, your obedient servant,

Wm. B. M*****.

Question 1st.—How many inches deep do you dig or plough your lands?

2d. Do you make any difference, and if any, what, in the depth of turning up strong and weak, stiff and light lands?

3d. Do you turn in your stubble, and if so does it not create injury by burying the shattered rice and thereby increasing the volunteer (red) rice?

4th. How do you avoid, or get rid of the shattered rice which produces the volunteer (red) rice?

5th. Is it better to turn in the stubble, or wait until you can burn off and then turn up the land?

6th. Do you flow your lands during winter, and if so, for what length of time, and how long before you plant, do you keep the water off?

7th. Would it succeed with lands which drain only from 2 to 2½ feet, to flow them all winter?

8th. Do your lands become quite dry in a week or ten days after the water is taken off when they have been flowed all winter?

9th. How many inches deep and wide are your trenches?

10th. Do you make any difference, and if any, what, in the distance from centre to centre of your trenches, in strong and weak, stiff and light lands?

11th. How many inches deep do you usually hoe the first and second weedings?

12th. After the long flowing and when the water is taken off the rice when in belly, does not the rice stop growing and turn yellow in consequence of the water being kept off so long?

13th. Why do you take the water off the rice when it is in belly, is it *merely* to clean it of grass?

14th. What length of time usually intervenes between the first and second hoeings after the *long* flowing, and how long it is usually, between drawing off the water after the *long* flowing and returning it, on the appearance of the second joint?

15th. Do you generally wait for fields to dry, after the water is taken off, before you commence hoeing them, and is it preferable?

16th. Do you approve of taking off the water from fifteen to twenty days before you commence harvest, as suggested by Mr. C. E. Rowand?

17th. If so, ought the water to be taken off while the rice is soft and in milk, or not until it begins to harden?

18th. By what criterion do you judge when to commence harvest.

19th. How wide are your trenching and weeding hoes?

20th. How many acres do you cultivate to the hand?

"*Cooper River, (S. C.) March* 10, 1826.

Sir,—I received your letter of the 16th of January last; some time since; you are to attribute my long silence exclusively to a press of business and frequent calls from home. You judge correctly in supposing that it affords me pleasure to communicate to my fellow-labourers in the science of agriculture, the method I pursue in the cultivation of rice. Whatever knowledge I may possess on the subject is the result of experience, and such as I have practically found to be most congenial to the soil and climate of Cooper river. But whether best adapted to your locality is doubtful to me. I will endeavour to reply fully to your queries, and trust they may be satisfactory. Accept, sir, my thanks for your offer to reciprocate.

Very respectfully, I am your obedient servant,

Jordan Myrick.

Answer to query the 1st—The plough is not used for rice on Cooper river, the soil being too light. We dig the land, in winter, every second or third year, and turn it up about five or six inches.

2d. I would turn strong and stiff deeper than weak and light lands; in stiff clay land I would always plough or dig in the stubble as early as possible in winter; in light black land (such as ours) I would never turn it in, but always burn or hoe off.

3d. Turning in the stubble will create volunteer rice, except every grain be sprouted before the land is turned.

4th. We gather, by hand, all the *ears* of rice left on the land after harvest, then put on the water for a few days to sprout the shattered rice or *grains*, taking care to turn off the water before frost; the stubble is burnt off as early in the winter as possible, and the birds, before we dig, eat all the grains that did not germinate. We exclude cattle of every description from our fields, for they trample in much shattered rice which will create volunteer.

5th. Answered above.

6th. We never flow our lands in winter, except mill-ponds; in weak lands, however, it might be beneficial to get the sediment. When the stubble is turned in I would flow in winter, and change the water whenever the sediment was deposited.

7th. I know of no advantage to be derived by flowing lands all winter that drain only 2 or 2½ feet. Our land drains from 4 to 5 feet.

8th. Our Cooper river land, when properly drained, will, except in wet weather, become perfectly dry in a week or ten days. For example, our mill-ponds which are flowed from November to April. Any land not properly drained must remain heavy and sobbed a long time.

9th. My trenches are 3 inches wide, and as shallow as possible, merely giving earth enough to cover or hide the rice.

10th. My trenches are 15 inches from centre to centre; I think weak land might be trenched nearer than strong.

11th. The first and second hoeing is from 3 to 4 inches deep, so as to turn over a good sod.

12th. The rice generally turns yellow, and the growth is checked by taking off the water when in belly, but by giving the rice air at this time, I find it beneficial in speedily bringing the ear *fully* and *regularly* out; it is for this purpose and not merely to clean it of grass that I take off the water at this time.

13th. Answered above.

14th. The length of time intervening between the first and second hoeing, after the long flowing, depends altogether upon circumstances, and the state of the field, and if the second hoeing cannot be done *before* the appearing of the *second joint*, it is omitted and the water put on. The time intervening between taking off the water from the *long* flowing and returning it varies considerably, even from 15 to 28 days, according to the good or bad condition of the field and the weather, but to make a good and full crop, the rice *must* be cleaned of *grass* and the water put on at the forming of the *second joint*.

15th. It is certainly preferable to hoe a field when perfectly dry. I generally hoe as soon as the field is dry after the water is off. I never hoe a field wet, except compelled by necessity; the grass cannot be killed when the field is hoed wet; when hoed dry it is all destroyed.

16th. I can express no opinion relative to Mr. C. E. Rowand's suggestion. My invariable practice, however, is to keep the water deep on the rice, frequently refreshing it from the time it is in ear till it is fit to cut, *i. e.* we let off the water 4 or 5 days before we cut the rice.

17th. I consider it very important to keep the water on and deep when the rice is soft and in milk.

18th. I commence harvest when the rice is hard and full ripe within a few grains of the bottom of the ear.

19th. My trenching hoes are three inches wide, the weeding eight.

20th. If land is *well drained* and in *good order*, five acres of rice, and 1 or 1½ of provisions may easily be cultivated to the hand.

(From the Southern Agriculturist.)

ON THE CULTURE OF COTTON.

"*Calhoun Settlement, Abbeville District,*
March 30, 1831.

Dear Sir,—In compliance with your request to "communicate my mode of cultivating my cotton crop," I now proceed to do so; not from any expectation that I can communicate any thing new, but from the belief, that if planters will, through your journal, give to their brethren the benefit of their experience, the agriculture of the south would be greatly improved. I have certainly been instructed by it, and am willing to contribute by mite in return, however diffident I may feel in doing so.

The mode I pursue, in cultivating this crop, is that which, with but some trifling variations, is the course adopted throughout my neighbourhood. Having already informed you of the manner in which I prepare the ground for and plant my crop, I will proceed to its cultivation. My corn and potatoes being always first planted are the first worked, and then my cotton. In doing this the first time, I ring round the cotton with the plough (either the Gofer or a small mould-board plough, if the latter, turning the bar to the cotton) as near as I can without throwing dirt to it, and plough the middles faithfully with a shovel or mould-board plough; so apportioning the hoes to the ploughs, that the latter shall be in advance of the former one day and no more. The hoes follow the ploughs—my directions to the workers being "chop through the drills, leaving the cotton in hills the width of the hoe apart—leave from three to four stalks in each hill, and haul up a little dirt to the plants." I have no fear of the cotton dying to any extent after this working; some may; but the advantage gained in causing the cotton when thus thinned out to grow off vigorously, I consider more than equivalent for the little loss sustained by the dying of a few stalks. There is no better way of putting a stop to the dying of the young cotton than to work it well. My cotton being worked over in this manner, I return to my corn and potatoes; after working which, I come back and give my cotton a second working. In doing this I plough the middles thoroughly, running very near to the cotton. At this stage it requires some judgment to determine whether the dirt should be thrown by the ploughs to the cotton or not. If the grass is too large to be effectually killed by smothering it with dirt and the dirt is thrown to it, the hoe hands, must push the dirt away with their hoes before they can get at the grass to cut it up, which puts it out of their power to work over as much ground or do it as well as they otherwise could. The hoes follow the ploughs, (the latter are one day ahead) my directions to the workers being "leave not a green thing in the field but the cotton—in no place let me see more than one stalk, and haul up a plenty of dirt to the cotton." Some of my neighbours leave two stalks in a hill, where there is a larger gap than usual between two hills; but I think this wrong, inasmuch as I believe that one stalk in such a situation will yield as much as the two, probably the staple of the cotton will be better, and certainly it can be easier picked out as the bolls will be larger. Having worked over my cotton in this manner the second time, I return to my corn and potatoes and work them the third time. This done, I give my cotton its third working. The cotton being now sufficiently strong to bear a good moulding, I throw as much earth as I can to it with the ploughs, and also plough well the alleys. The hoes follow, uncovering any plants that the ploughs may have covered—cutting out the bunches of grass, and hauling up earth wherever required. At this working, one of my neighbours, a successful planter, sends his hoes before his ploughs. I prefer, however, the other way. My potatoes are again attended to if they require it, and my corn generally, though not always the entire crop, worked over the fourth time; this depends on many circumstances. My cotton always receives a fourth working. At this time if the cotton has not branched out too much to permit, I again plough it, but do not plough very near it nor very deep. The hoes chop out any bunches of grass which may have been left at the last working. With this working, my cotton is generally laid by; but if the season has heretofore been dry and the cotton not well branched, and frequent rains should now occur, much young grass will sprout up, and a fifth ploughing, done *very shallow* and not near to the cotton, will be requisite; not so much to increase the production, as by destroying this young grass to facilitate the picking out of the cotton and picking it clean; for this grass if not destroyed, will attain a considerable growth. I task my hoe hands; in doing which, to do justice to yourself and the workers, requires that judgment which can be formed only from experience and careful observation. At the first working they generally do me three-fourths of an acre if cotton was not planted the last year in the same field; but if it was, they can generally hoe an acre. On the second hoeing, they generally do three-fourths of an acre, sometimes only half an acre. I plant six acres of cotton to the hand, which is about the usual quantity planted in my neighbourhood. I do not make as large cotton crops as some of my neighbours; I am content with three to three and a half bales of cotton to the hand with my provisions and pork; but some few make four bales, and last year, two of my neighbours made five to the hand. In such cases I have vanity enough, however, to attribute this to better lands. I have no overseer, nor indeed is there one in the neighbourhood; we personally attend to our planting interest, believing that as good a manure as any, if not the best, we can apply to our fields, is the print of the master's footstep. One of my neighbours who is a judicious and successful planter uses alternately the plough or an iron toothed harrow in working his cotton. His land is a high, *loose*, rich mulatto soil, and not much troubled with grass; but as mine is of a closer texture, liable to bake and become hard, I have not even thought it advisable to try his plan. Where the harrow can be used for this purpose with success, fully half of the ploughman's labour is saved.

When I first commenced planting as a profession, I worked every part of my cotton crop in rotation, in the order in which it was planted; but experience has proved to me, that however systematic this plan may be, it is bad in practice. I now work such parts of my fields first, as require it most, without caring which was planted first or worked last. Experience has also taught me to "keep a bright look out ahead" for rainy weather, and if I discover the least appearance of it, I examine with care such parts of my fields as lie low, and if I think it necessary, work them over immediately; for although the grass may then be young and easily destroyed; yet if such parts of a field are caught the least out of order, by a warm, *leaking* spell of wet weather (as it is sometimes called) the grass will have made fearful progress by the time the ground is dry enough to be worked; and it will not only take twice the labour to put it in the order that it should be, but in doing so, the workers will destroy much of the young cotton after it has been thinned out, and this necessarily lessens the crop. A planter should *always* know the exact situation of *every part* of his crop, or he will sometimes be taken by *surprise;* and the only way to obtain this knowledge is, frequently to *go over* and examine his fields. If it is true that "the master's eye makes the horse fat," 'tis equally true that the print of the master's footsteps manures the field.

Yours, respectfully, Thomas Parker.

(From the New England Farmer.)

CALCAREOUS MANURES.

This class of manures comprehends a number of articles, as, burnt or calcined limestone, pounded limestone, limestone gravel, chalk, marles, sea shells, soaper's waste, and gypsum.

1. *Advantages of lime.*—Though there are exceptions to the rule, yet, in general, it may be confidently asserted, that, unless where a soil has, by nature, enough of calcareous matter in its composition, for the purposes of vegetation, it can neither be brought into its most fertile state, nor will other manures be so useful as they ought, if lime, or some other calcareous earth, be not previously applied. By lime spread upon a moory soil, good herbage is produced, where nothing but heath and unpalatable grasses grew before. By the same means, grass-lands, instead of yielding nothing but bent, and other inferior grasses, have been covered with those of a more valuable description. The utility of lime to turnips is so great, that, though in the same field, where no lime had been applied, the crop died away, yet, in the limed part, the turnips flourished with unabated vigor. On the Mendip lands, in Somerset, by the application of lime, the value of land was raised, from 4 *s.* to 30 per acre; and dung, which, previous to liming, had no sensible effect, operated, after its application, as on other lands. Macclesfield forest, in Cheshire, and vast tracts in the northern and more elevated parts of Derbyshire, and adjacent districts, have been astonishingly improved by the same means. The rye lands of Herefordshire, in 1636, refused to produce wheat, peas, or vetches; but, since the introduction of lime, they have been so fertilized, as to be successfully applied to the growth of every species of corn. In maiden soils, of a tolerable quality, the richest manure will not enable them to bring any crops, but those of oats or rye, to maturity; whereas, if they receive a sufficient quantity of lime, crops of peas, barley, or wheat, may be raised to advantage. The benefit resulting from the use of lime, has been indisputably proved in the same farm; for the richer parts that were left unlimed, were uniformly inferior, in produce, to the poorer that had been limed, during a period of not less than twenty-one years, under the same course of management.

2. *The principles on which lime operates as a manure.*—Quick-lime in powder, or dissolved in water, is injurious to plants; hence grass, watered with lime water, is destroyed. But lime, freshly burnt, or slacked, forms a compost with vegetable matter, which is soluble in water, and nutritive to plants. Mild lime (as chalk, or quick-lime again impregnated with carbonic acid,) chiefly operates by improving the texture of the soil and its relation to absorption.

3. *The various sorts of limestone.*—Sometimes limestone is almost perfectly pure, as is the case with marble, which frequently contains scarcely any other substance but calcareous matter. Several sorts of limestone, however, have mixtures of clay and sand, in various proportions, by which the efficacy of the manure, in proportion to the quantity of these substances, is considerably diminished. It is necessary, therefore, to analyze limestone, to ascertain the proportion of pure lime, before it is advisable to use so expensive an article in great quantities, more especially if it must be conveyed from a distance. Bituminous limestone makes good manure. But the magnesian is the species which requires the greatest attention. Limestone sometimes contains from 20.3 to 23.5 of magnesia, in which case it would be injurious to weak soils, to apply more than from 25 to 30 bushels per statute acre, though in rich soils double that quantity may be used, and still more with peat, on which soil it would have a most powerful effect in producing fertility.

4. *Mode of preparing it for use.*—Limestone is burnt in kilns of various constructions. It is applied with advantage to soils recently reclaimed, in a caustic state; but is generally *slacked*, by throwing water upon the lumps, until they crack and swell, and fall down into a fine powder. This operation, when it is to be done, should not be delayed; for, if properly burnt, calcined lime is easily reduced into a fine powder, which may not be the case if the slacking be postponed. If water cannot easily be obtained, the lumps may either be divided into small heaps, and covered with earth, by the moisture of which they are soon pulverized, or made into large heaps, the lumps and earth six inches thick, and the whole covered with earth. Where it can easily be had, it is a great advantage to slack the calcined limestone, for manure, with sea-water or urine. When applied to land in a powdery state, lime tends to bring any hard vegetable matter that the soil contains, into a more rapid state of decomposition and solution, so as to render it a proper food for plants.

5. *Application.*—Summer is the proper season for liming land. That experienced farmer, Mr. Rennie, of Phantassie, is of opinion, that the most profitable period for applying lime is, when the land is under summer fallow, in the months of June and July, that it may be completely mixed with the soil before the crop is sown. This is also the general practice in other districts. For a turnip crop, it should be laid on early in the spring, before the turnips are drilled, in order that the lime may be thoroughly incorporated with the soil, by the ploughings and harrowings it will receive; the land will thus have time to cool, and the lime will not dry up the moisture necessary for bringing the turnips into leaf. For potatoes, lime is not to be recommended, as it is apt to burn and blister their skins. When applied to old ley, it is a good practice to spread it on the surface, previously to the land being broken up, by which it is fixed firmly on the sward. One year has been found of use, but when done three years before, it had produced still greater advantages; in the former case, the increase of oats, being only at the rate of 6 to 1, and in the latter, that of 10 to 1 of the seed sown. The quantity applied must vary according to the soil. From 240 to 300 bushels of unslacked lime may be applied on strong lands with advantage. Even 600 bushels have been laid on at once on strong clays with great success. On light soils, a much smaller quantity will answer, say from 150 to 200 bushels, but these small doses ought to be more frequently repeated. When applied on the surface of bogs or moors, the quantity used is very considerable, and

the more that is laid on the greater improvement. The real quantity, however, of calcareous matter used, depends upon the quality of the stone. It often happens that five chaldrons do not furnish more *effective manure* than three, because they do not contain three-fifths of calcareous matter.

6. *Effects of lime.*—Many farmers have subjected themselves to an expense, at the rate of ten shillings per acre per annum, for the lime they used, and have been amply remunerated. The benefit derived in the cultivation of green crops is sufficient for that purpose. Such crops may be raised by large quantities of dung; but where calcareous substances are applied, it is proved, by long experience, that a less quantity of animal and vegetable manure will answer the purpose. This is making the farm-yard dung go farther, with more powerful, and more permanent effects; and, from the weightier crops thus raised, the quantity of manure on a farm will be most materially augmented. Indeed, upon land in a proper state for calcareous application, (as old ley,) lime is much superior to dung. Its effects continue for a longer period, while the crops produced are of a superior quality, and less susceptible of injury from the excesses of drought and moisture. The ground, likewise, more especially if it be of a strong nature, is much more easily wrought; and, in some instances, *the saving of labor alone*, would be sufficient to induce a farmer to lime his land, were no greater benefit derived from the application than the opportunity, thereby gained, of working it in a more perfect manner.

7. *Rules for the management of lime.*---1. It is necessary to ascertain the quality of the soil to which lime is proposed to be applied; and whether it has formerly been limed; and to what extent. In general, it may be observed, that strong loams and stubborn clays, require a full dose to bring them into action, as such soils are capable of absorbing a great quantity of calcareous matter. Lighter soils, however, require less lime to stimulate them; and may be injured by administering a quantity of lime, recently calcined, that would prove moderately beneficial to those of a heavy nature. 2. As the effects of lime greatly depend on its intimate admixture with the surface soils, it is expedient to have it in a powdered state before it is applied, and the drier and the more perfectly powdered the better. 3. Lime having a tendency to sink in the soil, it cannot be ploughed in with too shallow a furrow, or kept too near the surface. 4. Lime ought not to be applied, a second time, to weak or poor soils, unless mixed with a compost; after which the land should be immediately laid down to grass.

(From the Southern Agriculturist.)

ON THE ORIGIN OF SEA-ISLAND COTTON.

"*St. Simons*', *March* 5, 1831.

Dear Sir,—Your esteemed letter of the 25th ult. is now before me, to which I shall reply, reserving the subject of your former letter for another communication.

I regretted to see Mr. Spalding's publication in the "*Georgian*," of the 31st of January, respecting a letter from Patrick Walsh, Esq. agent for the Liverpool African Company, in Cuba, *to myself*, respecting the introduction of sea-island cotton into Georgia. Mr. Spalding's publication shows that he had not seen that letter, as published in the "*American Farmer*," or he would never have thrown such undeserved reflections on Dr. Mease.

Twenty or more years since. Dr. Mease visited St. Simons, with his father-in-law, the Hon. P. Butler; in conversation with them, I mentioned my letter from Mr. Walsh, and by request of Dr. Mease, gave it to him, as he was then engaged in some publication, in which he intended to notice the introduction of cotton. I heard no more of this letter, until I saw it published by request of Dr. Mease, in the "*American Farmer*," and was not a little surprised at Mr. Spalding's reply, and his want of courtesy (in his first and last sentences) to Dr. Mease. Mr. Spalding's assertion that there *is but one assertion* in Mr. Walsh's letter *that he does not know personally to be untrue*, requires my attention to the vindication of the memory of a respected friend. I have not Mr. Walsh's letter, or a copy before me, and must therefore take it up from memory.

Mr. Walsh, under date Havanna, 1805—states that he met Mr. F. Levett soon after the evacuation of East Florida, (perhaps in 1783-4,) in Jamaica, at a loss how to employ his negroes—advised him to go to Georgia, and pointed out Sapalo Island as an eligible situation. Mr. Levett declined going to Georgia—went to the Bahamas—disliked prospects there, and proceeded to Georgia, probably in 1784-5. Mr. Walsh was, at the time, employed in the West-Indies, collecting seeds and plants, for his friends in the Bahamas; amongst other articles he had procured a quantity of Pernambuco cotton seed, two bags of which he forwarded to Mr. Levett: *and proceeds*—I received a letter from Mr. Levett, in 1789, saying he had carelessly thrown the cotton seed out; the season being wet, it sprouted and grew—he transplanted a part, which flourished; from that beginning he increased his seed, and expected that year (1789,) to make twenty tons of clean cotton. This is the amount of Mr. Walsh's letter, which has brought upon him the heavy charge of falsehood. As an instance, Mr. Spalding says, Mr. Levett never lived a day on Sapalo. Mr. Walsh does not say Mr. Levett ever lived there—*he only advised him to do so.* I cannot conceive why a respectable man like Mr. Walsh, should write a tissue of falsehoods, on so trifling a subject. I must therefore believe what he says, to be true, and suppose Mr. Levett did write him as he states, in 1789. Mr. Spalding confuses dates—he admits that several persons planted cotton in 1789—and why not Mr. Levett. Cotton, I admit, is difficult to transplant on a large scale, and have tried to supply an irregular field, by transplanting, and *partially succeeded*, but found it better in such cases to replant with seed. I shall now drop this unpleasant subject, believing Mr. Spalding's observations were made without his having seen the letter which Dr. Mease published in the "*American Farmer;*" and that he will feel pleasure in retracting his injurious reflections.

Respecting the introduction of the sea-island cotton, Mr. Levett always assumed the merit of having done so. I never heard him mention where the seed came from,—and after receiving Mr. Walsh's letter in 1805, I never saw Mr. Levett. Mr. Nichol Turnbull, also took the merit to himself of having brought six quarts of seed from the Bahamas. I also recollect Mr. James Spalding having received seed from Mr. Kelsal. It is my opinion that the sea-island cotton found its way into Georgia, by all those gentlemen, and in the same year 1785 or 1786. My impression is, that Mr. Levett first planted cotton on *Shiddaway Island*, and removed to *Julianton*, where he died. Whether the original seed was from Pernambuco, I have no other account than from Mr. Walsh's letter. What we call here silk cotton, has been represented to me by Bahama planters as the *Anguilla*. I doubt if the Pernambuco, and other Brazil cottons are from *China* or *Kidney* seed cotton. I have no recollection of Mr. Levett planting indigo on St. Simons—part of his negroes under a Mr. Renny, planted a crop at New Hope, on the Alatamaha, I think in 1785. I drop with satisfaction this painful discussion.

You request to know the success of my plan to keep the worm from the roots of the peach. I continue, annually, in March or April, to wind bandages of cotton bagging round the lower parts of their stems. I have yet no worms in my trees. Any thing else that will keep the fly from depositing its eggs in the bark, will do as well. I have discontinued plastering with *Forsyth's mixture*, believing it superfluous. We had a remarkable warm and mild winter, until the 21st of December, which kept the sap up, and a growth in our orange and olive trees. The severe frost that then took place, and its continuance, has injured both our sweet and sour oranges. The larger olive trees are unhurt—young plants partially cut down. This proves the olive to be a hardier plant than the sour orange.

The last two dry summers, and an injudicious choice of soil, has lessened my hopes in increasing my olives; with additional experience, I am now engaged setting out cuttings.

I am, very respectfully, dear sir, your most obedient servant, JOHN COUPER.

(From the New England Farmer.)

PREPARATION OF SEED CORN.

MR. FESSENDEN:—I have noticed sundry communications, upon the best method of preparing seed corn for planting, with a view to prevent crows from pulling up the corn, &c. Much has been said about soaking the seed in copperas water, and it would seem that the question was now settled by general consent, that this mode is the only safe preventive in the ear, but my own and my neighbours' experience has brought us to a different conclusion. We were in the habit of using the copperas water for several years, and at first, (as is the case many times with new experiments,) we were disposed to believe that it had the desired effect, but upon further experiment we found that the crows made the same depredations upon the seed soaked with copperas, as with that which had no preparation before planting. I could if necessary cite sundry careful experiments which brought us to this conclusion, but I take the liberty to state the result of another experiment which has had the experience of my neighbours for the last three or four years, and I believe without a single instance of failure so far as I have ascertained the fact; it is as follows: to a half bushel of seed corn take one pint of tar, more or less; let it be warmed over a moderate fire until it will run freely; then put it into the corn, at the same time stirring it up until it be all coated over with the tar; you may then add ground plaster of paris, or wood ashes (as is most convenient, either will answer,) and stir it until the kernels will separate, and will not adhere to your fingers; you may handle it when cooled without the least inconvenience, when planting. The first impression from the appearance of the seed after it has gone through the foregoing process is, that it will not vegetate; but three or four years of actual experience among farmers who raise from two to five hundred bushels of indian corn each, annually, has settled that question beyond a doubt,—and the crows never have pulled up more than two or three hills in any one field, and have never carried even that away, but have left the field instantly, without ever returning to renew the experiment,—and in addition to this, the corn has never been infested by the wire worm, which has been many times very destructive to the crop, nor has any other animal or reptile been yet found who was fond of making a meal of tarred corn.

I confess when this mode was first proposed I was very faithless; I doubted whether seed would vegetate, and if it did, I had my doubts whether the tar would not be detrimental to the crop; but I am convinced that tar is so far from being injurious to the crop, that I now believe that it not only guards the crop against birds and insects, but is salutary to the growth of the corn.—If you see fit to insert the foregoing in your useful paper, (although past seed time.) it may at least give time for corn growers to inquire into the truth of the facts herein stated, and I hope may result in some benefit to the community; and you will gratify one at least who inhabits the

VALLEY OF CONNECTICUT.

ADVANTAGES TO BE DERIVED FROM THE DESTRUCTION OF WEEDS.

Plants that grow naturally, among a crop, that has been sown, may be regarded as *weeds*, or, in other words, as enemies to the crop that is cultivated. The destruction of weeds, therefore, must be considered as one of the most important branches of the agricultural art; for if it be neglected, or even if slovenly performed, one third, or one half of a fair crop, may only be obtained, even from the very best soils. Besides, it merits consideration that if weeds are suffered to exist, the full advantages of manuring land, and many other improvements, can only be but partially reaped. Nor is this all; the mixture of weeds in the soil, prevents the crop from receiving the beneficial influence of the air;—augments the risks at harvest, (for a crop that is clean, may be ready for the stack-yard in much less time than is required to harvest it, when encumbered with weeds;)—and the seeds of these intruders, deteriorate the quality of the grain. Notwithstanding all the injuries thence sustained, how many are there, who hardly ever attempt to remove weeds in an effectual manner? This negligence is the more to be blamed, because, were farmers at the trouble of collecting all sorts of weeds, before they have formed their seeds and of mixing them with rich earth, they would soon be reduced into a soft pulpy mass, and in this way a pernicious nuisance might be converted into a valuable manure.

Various experiments have been tried to ascertain *the positive advantage* derived from carefully weeding one part of a field, and leaving another part undone; among these, the following, made with peculiar accuracy, may be safely relied on.

1. *Wheat.*—Seven acres of light gravelly land were fallowed, and sown broad cast; one acre was measured off, and not a weed was pulled out of it; the other six were carefully weeded. The unweeded acre produced 18 bushels; the six weeded acres, 135 bushels, or 22½ per acre, which is 4½ bushels, or one fourth more produce in favour of weeding.

2. *Barley.*—A six acre field was sown with barley, in fine tilth, and well manured. The weeding, owing to a great abundance of charlock, cost 12*s.* per acre. The produce of an unweeded acre was only 13 bushels; of the weeded, 28. Difference in favour of weeding, 15 bushels per acre, besides the land being so much cleaner for succeeding crops.

3. *Oats.*—Six acres sown with oats; one acre ploughed but once and unmanured, produced only 17 bushels. Another six acres ploughed three times, manured, *and weeded*, produced 37 bushels per acre. This experiment proves, that oats require good management, and will pay for it as well as other crops. Ten bushels of the increased produce may be fairly attributed to the weeding; and the other ten to the manure.

The importance of weeding, both to the individual and to the public is such, that it ought to be enforced by law. At any rate a regulation of police, for fining those who harbour weeds, the seeds of which may be blown into their neighbour's ground, can have no injustice in principle. In England the petty constable might be required, by precept from the high constable, to give in presentments to the quarter sessions, containing a list of all persons who suffered weeds to run to seed in their hedges or lands, such presentments to be particularly specified to the court. Those referring to the coltsfoot, to be given in at the Lady-day sessions: and those referring to thistles, rag-weed, &c. to be given in at Midsummer sessions. An order of court might then be made, for the immediate removal of such nuisances, and if not complied with, the offender should be fined a sum not exceeding five pounds, one half to the informer, and the other half to go to the relief of the poor.

If in consequence of such a system being enforced, 4½ bushels of wheat;—15 do. of barley,—10 do. of oats *additional*, were raised in all the fields in the kingdom, whose crops are injured by weeds, what benefits might not be the result?—Indeed if such a plan were to take place, and if the overseers were compelled, by an express statute, to employ the poor, in the destruction of weeds, England might, in process of time, become as free from that nuisance, as China or Japan; and the farmers would soon find, that however anxious they may be, to have their lands *tithe-free*, yet to have them *weed free*, is of still greater importance.

On the whole, keeping his land in a clean state, ought to be a principal object with every farmer; and if this be not carefully attended to, he may rest assured of paying dearly for his neglect. But the losses which he suffers, do not remedy the injury which the public sustains from his slovenly conduct. The regulations, therefore, which have been suggested, may be considered as both expedient and necessary; for were they adopted, it is evident, that many of the evils alluded to would be removed, and the wealth and agricultural resources of the nation, materially augmented.

[*Sinclair's Code of Agriculture.*

(From the New England Farmer.)

LEAVES FOR MANURE.

MR. FESSENDEN:—I have just read an article in your paper of the 11th instant, extracted from the American Farmer, recommending the use of leaves as a valuable ingredient in manure. I have long been in the habit of using say 20 cart loads in a year, as litter for my stables, and am abundantly convinced of their utility. I have found them superior to straw, for absorbing, and retaining the urine, which makes no inconsiderable portion of the strength of stable manure, as is well known to most of my brother farmers. I recollect that some years ago, you published a communication from me on the above subject, with my particular method of collecting and using the leaves. I now take the liberty of again recommending the plan to your subscribers as it is often needful that we have "precept upon precept, and line upon line," in husbandry, as well as in theology.

I am, sir, respectfully yours,

Newton, May 14, 1831. J. KENRICK.

HORTICULTURE.

(From Blackwood's Magazine for April.)

SIR HENRY STEUART'S THEORY OF TRANSPLANTATIONS.

(Continued from page 102.)

We do not doubt, that Sir Henry's eloquent denunciations of the mutilating system, will bring upon him and his woods the blessings of all the Dryads. What shocking objects do not so many fine trees become, under the knife, the bill-hook, and the axe! except by the banks of a canal, where every thing, to be consistent with the spirit of the scene, ought to be as ugly as possible, how offensive to nature is a pollard! yet whole counties are peopled by pollards. Perhaps there may be a sort of necessity for this in some situations, but the system is often as needless as it is odious. It is often pursued from taste. The great, round, bushy, bishop-like head of a trimmed tree, is considered beautifully and boldly John-Bullish. It not only will not bend, but it will not so much as roar to the wind. It gives but a sulky growl at the best—and in the stormiest day that ever blew, you see a whole flat country of pollards motionless, as if it were asleep, or dead.

The very youngest trees are made pollards, as soon as their branches will admit of mutilation, and there they stand by the roadside so many round-heads. Let an old pollard alone for twenty or thirty years, and you see him working away day and night, making the most incredible exertions once more to regain the form of a tree—flinging out arms horizontally, and instead of a stiff circular wig, a fine head of natural hair streaming to the wind in all directions. Now, as Sir Henry says, let any man try the experiment, of lopping, that is hacking and hewing, on a healthy subject not intended for removal, and he will find that mutilation will so stint its growth, that it will not recover, till after several years, if recover at all; and it will never attain the same size and figure, or produce the same sound and perfect wood, as others on which the branches have been left in an entire state. Or, otherwise, let him make trial on two trees of equal age and health, and cut the boughs from the one, while he leaves them, at the time of transplanting, on the other, and in that case the latter will be found to succeed far better than the former. Or, let him practice the same thing on two permanent trees of equal health and appearance, and the tree, of which the boughs are lopped, will not be found to make half the progress of the other, nor will the bulk of the stem increase in nearly the same ratio.

It is a great mistake to think that fine, large, spreading, noble-headed trees, are not fit for transplantation. The roots are always, as Sir Henry has beautifully shown, correlative to the branches; and therefore the smallest headed tree is in fact the least able to support itself in an open situation. Roots, by their vigour and numbers, must stretch out under ground before the branches can extend themselves in the air; and the progress of the latter development will of course be in proportion to that of the former. By the curious and beautiful way in which almost every part of a tree modifies and determines the existence of every other part, the roots in their turn receive vigour and extension from the advancement of the branches. Roots and fibres are always found more or less extensive, in the ratio of the exposure or shelter in which a tree is placed. In open situations, they are always strong and numerous, and they extend to a wide distance from the plant. This is indispensably necessary, notwithstanding the short and powerful stem which a tree so situated generally displays, to enable it to resist the elements, and to provide sustenance for the great expansion of top with which such a tree is sure to be furnished. It is supposed by some, indeed, that the roots of trees so placed, if of considerable age, after having exhausted before their maturity all the substance in their neighbourhood, will at length be found searching for food at a distance from the trunk, equal to the height of the trees themselves. At all events, we are aware, that even with trees of a youthful age, the roots and branches are co-extensive with each other; or rather that superior extent is generally found on the side of the roots. It is manifest, then, that it is to trees only with insignificant heads, and sparingly furnished with lateral branches, although they expose a much lesser surface to the wind, that props or supports are at all necessary, after being properly transplanted; and it matters nothing whether these defects have been produced by ignorance or the axe, or by undue confinement. Other things, therefore, being equal, it may be held as an axiom in practice that the success of the planter will be nearly in proportion to the fulness of ramification of top and sides which his subjects may possess.

This is cheering, and excellent, and true doctrine. A beautiful tree is found growing, with all the prerequisites. It is an eye-and ear delight; but it is a mile off, and in a situation where it wastes its sweetness on the desert air.—The mutilator has got it up, and brings it to the spot, near home, within view from the drawing-room, the knoll which it is to beautify, the green sward over which it is to fling its trembling shade and shelter. The murderer has cut off its head—and its arms—and there it lies, a bare and bleeding trunk. It is stuck into the ground—that is, planted, and every christian devoutly prays that it may soon be released from its sufferings by death. Sir Henry Steuart, again, discovers such a beauty, standing by itself by the edge of a remote wood—or even in an open glade—and he brings it, almost without loss of a bud, to the spot where the eye of taste desiderates such a fair object. With such delicate care, and requisite skill, has it been transported and transplanted, without having been transformed, that spring beholds in all its loveliness the very tree itself as it charmed the eye in its birthplace; and instead of a ghost—a spectre—a skeleton—pointing at you with its bleeding and mutilated members, till you feel yourself to be a murderer, and get no sleep,—a tree alive, and life like, and destined for longevity, salutes you with a radiant gleam of rustling verdure, morning, mid-day, and eve; and, delighted with being admired, forgets its native seclusion; and pride of the park, shelters the dappled deer within its shade.

Sir Henry, therefore, asserts boldly, because on assured principles, that size offers to successful removal no actual impediment farther than increased expenditure. The same principles apply to the largest and to the smallest trees. But size implies greater labour and contingency; and consequently, more powerful machinery; and both rise in a ratio far more accelerated than might at first sight be conceived to correspond with the increased dimensions of the trees. Sir Henry himself has confined himself to subjects seldom exceeding thirty-five or thirty six feet high, and in the stem from fifteen to eighteen inches in diameter. He does not prescribe to what length others should go, because it is altogether arbitrary; but in his judgment, no subject should be selected for removal of which the girth of stem is less than from eighteen inches to two feet; or in other words, whose diameter does not extend to six or eight inches at the least, reckoning at a foot from the ground; the length of the tree being supposed from fifteen to eighteen feet. Any subject possessing a lesser magnitude, and lesser proportional shortness than this, he considers as unfit for judicious removal in exposed situations, and destitute of proper stamina to resist the elements.

It is rarely, if ever, that we can do any thing to increase either beauty or utility, when nature regulates the process, but humbly to follow her footsteps; yet, Sir Henry remarks, that in transplanting, experience leads us to believe, that art may improve the balance, and of course, the beauty of trees, on a principle to all appearance contrary to nature, and certainly opposite to all former practice. Most trees are unequally balaneed, and show, "a weather side," usually to the west and south-west in this island, from which they bend and lean very often in an unseemly manner. This is especially visible in the beech and larch—and more or less in all trees, except the sycamore. Sir Henry, therefore, in transplanting, uniformly reverses the position of the tree in its new situation, by which means the superior tendency to throw out branches being made to act on the deficient side, the equal balance of the tree is gradually effected, and its beauty and symmetry unspeakably improved.

In exposed situations, indeed, there is no other possible way of preserving a full and extensive ramification on the stormy side. For, by the law of nature, wherever the action of air, and especially of cold, is the greatest, there the greatest evolution of buds and the thickest growth of spray will necessarily take place; but those growths are generally short in proportion as they are numerous. In so far, then, the art of transplanting on fixed principles, may be said to substitute beauty for deformity, and fairly to cure one of the most prominent defects which, in a picturesque view, park trees, in loose dispositions, are apt to display, particularly on our western coasts.

But no man must ever attempt to touch a tree at all, with a view to transplantation, who does not know the peculiar soils and subsoils suited to peculiar trees. Simple as this rule is, it is in planting and transplanting sadly neglected. What more common than to see fifty different sorts of trees all living or dying together in one enclosure! In the lawn or park, in which the prominent effects are to result from small groups or individual trees, every failure, as Sir Henry well says, tells and appears conspicuous. No man, therefore, who knows any thing of wood, will put down the sycamore, the lime, or the wild cherry, for example, on a clayey soil; neither will he put the oak or the elm on light soil or gravel, but on the contrary, on the deepest and loamiest land he can find, and for the former even with a clay-bottom; for, although the oak, in particular, is the most accommodating of all trees, it is only on land of this sort that it will thrive, and grow to fine timber. But by the skilful planter, the subsoil is often regarded as of more moment than the mere texture of the surface; as the degrees of moisture most suitable to woody plants form, perhaps, the most prominent features in their characteristic differences. In certain situations, therefore, where, for example, he might be anxious for the good effect of the oak or chestnut, it will often be prudent for him to be content with the inferior forms of the lime or beech.

Those trees always look best that thrive best: and unless a tree be in perfect health, it cannot be in much beauty. The most miserable errors are apparent every where one opens his eyes, in planting and transplanting, arising from want of this sort of adaptation. Sir Henry mentions, that a friend of his once offered a bet of five to one in a large public company, that no gentleman present should, within three months, name three persons, landholders in the county, (it shall be nameless,) who has executed large plantations, and were possessed of from £500 to £5000 a-year and upwards, that "were able to state with precision the different sorts of soils to which twelve of the principal forest trees, planted in Britain, were best adapted." It was taken, and lost by the taker. During the course of the investigation, more than twenty planters aspired to the honours of the competition; but when it came to the trial, the result was, that in the county of ——, *one person only* was able to fulfil the prescribed conditions. If this county (we suspect it) be much planted, it will exhibit a droll and yet mournful appearance in half a century,—for almost all the trees having been stuck in either by haphazard, or contrary to the laws of nature, will be a sickly set; that is, such of them as are alive. Kent used to plant a few dead trees here and there for the sake of effect, and a few deformed ones, where the proprietor wished for something more peculiarly picturesque; but the proportion in this country, of the dead and the deformed, will be out of all bounds too great, and a tree that is not only absolutely alive, but also straight in the spine, and with a good appetite, will be worth walking a whole parish to get a sight of, and will probably be exhibited as a show. A simple friend of Sir Henry's, not long ago, complained to him with tears in his eyes, that wood grew so badly about his place, that after the experience of *forty years* (poor old gentleman) he was *almost discouraged* in the cultivation of it.—Well he might, unless he expected to outlive Methuselah.—"On visiting the spot," says Sir Henry, "I perceive that his representation was but too well founded. As he felt a great partiality for limes and sycamores, he had transplanted those two sorts of trees all over his park, about eight and ten feet high, many years before; and that the work was executed in the best manner, he said, it was impossible to doubt, as it was done under the direction of his own gardener, who had *extensive experience and knowledge of wood.*—But the gardener and himself both assured me that the soil and climate were "altogether unfavorable to wood," however either might suit husbandry of green crops. In proof of which they turned my attention to the trees, which, indeed appeared stinted and unhealthy, with leaves of a yellowish green color, and growing about an inch or little more, in a season."

This was a bad case indeed. Sir Henry looked at the soil—and lo! it was a rich, but thin clay, naturally inclining to damp in the substratum, from the retention of moisture. "Grub up your limes and sycamores," quoth Sir Henry, wisely, "which you should never have planted, and which unless by a miracle, could never have grown to timber in such a soil—replace them with oak and beech of at least five-and-twenty feet high, and of two and three feet in girth, in order that they may be able to stand the elements, and within a few years you will have thriving wood. But let oak be the staple, whether of your plantations or your park, with such a soil. To get advice is one thing, to follow it another. I know not whether the gardener's opinion or mine prevailed with the good-natured owner; but the probability is, that the place will remain in *statu quo*, and the badness of both soil and climate be deplored or reprobated for another generation."

There is something very ludicrous and instructive in the position of this old country gentleman, who could never get any of his dearly-beloved lime and sycamores to grow upon his property. His own gardener had had extensive experience and knowledge of wood! where? perhaps on this very estate, on which he had been laboring, for twenty years or more, to reverse the laws of nature. But wherever it was, he was equally a blockhead; and sorry are we to say, that too many gardeners, with such extensive experience and knowledge of wood, are blockheads. If so, what are they, who, without any experience or knowledge whatever, are too often intrusted with transplanting trees, as if trees were cabbages? So deeply impressed is Sir Henry with the general want of intelligence on the important subject of wood, that he hints a proposal for the establishment of an Arboricultural Society, in Scotland; and an admirable institution it would be, and productive of most beneficial results. One of the most remarkable of these, in Sir Henry's belief, would be the change that would take place in the character, the education, and acquirements of our nurserymen, by far the most influential agents, in the melioration of our future woods; because it is upon them that we must depend for the nature of the materials. Then we might hope to see nurserymen come forth, as they ought to do, able botanists, intelligent agriculturists and gardeners, vegetable physiologists,—in a word,—men of science. Yet it is obvious that reformation, if it be begun in earnest; must begin elsewhere. Let "well informed landlords" rise up, and the other classes will follow.

But there is another cause of ill success, not implying such utter ignorance as the above procedure, yet in the long-run, little less productive of failure—namely, the thinning close woods and plantations for the supply of subjects for removal.

"Perhaps there is no planter, who, in the beginning, has not fallen into this mistake, before he had sufficient time to attend to the effects of heat and cold on the growth of wood. Allured by the fine forms of trees so trained, by the tallness of their stems, the beauty of their bark, and their general appearance of health and strength, we naturally form the wish to transfer them to the lawn or open park. But we should reflect, that how much soever they may please the eye, there are no properties so unfit as these for this degree of exposure, as they are generated solely by warmth and shelter. As well might we bring the native of the burning plains of Asia or Africa, and, in the light attire of those tropical climates, expect him to endure a British winter. Either the facts respecting exposure and sheltered wood, as above stated, are incorrect and unfounded or nature must be supposed to act in contradiction to herself, if she sanctioned such incongruities. Yet, ninety-nine times in a hundred, the reputation of an art, which if rightly understood, would be useful to many, is fairly sacrificed to this erroneous practice. Nor are these the errors of youth or inexperience. Two of our best informed writers, Boutcher and Marshall, as we have already seen, regard the art as mainly applicable to 'the thinning of nurseries or plantations,' and recommend it, accordingly, for that purpose.

"It is not necessary to dwell long on so unhappy a system of selection. The trees being transferred to a climate, colder by several degrees than that in which they were trained, and with the peculiar conditions and properties adapted to the latter, internally decline. The usual lightening or mutilating of the tops, affords no alleviation or remedy from without. In such a situation, the mechanical effects of wind would be sufficient of itself, without any other cause, to insure their miscarriage. But, as they carry leaf, and show no immediate symptoms of decay in the outset, their ultimate, though certain failure is not contemplated by the sanguine planter. With root adequate either to fix them in the earth, or to furnish the supply of sap, which their new circumstances demand, they are incapable of extending themselves, either above or under ground. The leaves, from the deprivation of shelter, cannot duly elaborate the sap; and the proper juice, on the other hand, is chilled in its descent, from the want of leaves, and branches and bark, sufficient to protect the sap vessels. Meanwhile, the trees are vexed by the winds, from every quarter. They want side-boughs to nourish and balance them properly. Gradually, they become stunted and hide bound. The few branches they have decay and drop off; and at last they are rooted out, as a proof of the hopelessness of the art, and the inutility of all attempts to cultivate it! A few plants, perhaps, taken from the out-skirts of the wood, and better furnished with the protecting properties, struggle on for ten or fifteen years, until they acquire their properties to a certain extent; and beginning *then* only to thrive, after halt a lifetime of expectation, they show beyond controversy, to the planter and his friends, how much more speedily trees might have been got up to an equal size, from the nursery or the seed-bed."

After this very full development of the theory or principle of the art, contained in sections third, fourth, and fifth, Sir Henry treats, in section sixth, of the preparation of the soil—both for open dispositions of trees, and for close plantations. On this most important part of his subject he is full, clear, and scientific—but we must confine ourselves to a very general exposition. In the first place, trees, far more than any agricultural crop, require depth of soil to raise them to perfection. Whatever, in this respect, holds true of young plants, must, *a fortiori*, hold most decidedly true of larger subjects, such as are intended for removal. If, in transplanting, the cold must often be increased, and other circumstances adverse to trees, the soil must always be rendered as deep and as rich as possible, to counterbalance those disadvantages. Deepening can be executed with effect only by trenching or double-digging, (for the plough can do little in such a business.) Secondly, the depth of pulverization must depend on the nature of the soil and the sub-soil. In rich clayey soils it can scarcely be too deep; and even in sands, unless the sub-soil contain some principle noxious to vegetables, deep comminution should be practised. Nothing but the water stagnating under the trench, in consequence of a clayey bottom, and the risk of the roots being thereby chilled, should prevent trenching from being always executed as deep as possible. Thirdly, masses or heaps of compost should be collected, adjacent to where the trees are wanted, and always ready for use, not less than six months old. These masses must be compounded, first of quick-lime, recently burned, with clayey matter, for the light land; secondly, mild lime, with sandy soil, for the aluminous; and thirdly, quick-lime, with peat-moss, for the loamy. To each of the two soils first mentioned is given an addition of about a third part of the peat-compost, for general application to all soils, Sir Henry has found the most extensively useful of the whole, if prepared with a third part of animal matter, or fresh farm dung.

The soil must be prepared either for single trees, and open dispositions of wood in the bark, or for raising at once close woods or plantations for shelter and ornament. With respect to the first, no tree transplanted should have less than from eighteen inches to two feet of deep mould, prepared and enriched, to some distance round the plant. Stakes mark out the site of the single tree. The ground is to be trenched to the depth of two feet. For a pit, two, or at most three, single horse cart loads of the proper compost are sufficient. If the soil be sandy or gravelly, the clay compost should be used; if clayey, the sandy compost; with the addition of one-third part of the peat or general composts, which is applicable to all soils. Should the soil be deep and loamy, the last-mentioned compost is the best. If the tree is not to be put into the pit for a year after the trenching, the compost is to be laid down in half loads round the stake which marks out the site of the pit, and at such a distance as not to obstruct the workman.

Next as to the groups and large masses of trees, Sir Henry recommends that the entire area, comprising all the trees of the group, be trenched all over, and reaching to at least five yards beyond the stakes which mark the outside plants.—During the trenching, it is advisable to give the work a good dressing of compost, of a quality directly opposite to the quality of the soil, and to be dashed on, thinly and frequently, over the face of the new earth thrown up. If this be abundantly done, one extra single cart load of compost for each tree is sufficient, not omitting a third part of the peaty or general compost. The work of preparation, in every situation, should be done a year, at least, before the removal of the trees, that there may be a complete incorporation of the compost with the soil, during the renewed comminution of the whole, when the planting takes place.

(To be continued.)

RURAL ECONOMY.

(From the North Carolina Spectator.)

SILK IN MACON, N. C.

We have been presented with a skein of sewing silk, together with a hank of the raw material of a very fine and beautiful appearance, by Mr. Samuel Smith, a very enterprizing and intelligent gentleman, who resides near Franklin in Macon county. The specimen before us was produced from silkworms, reared by Mr. Smith's daughter—about 13 years of age, and reeled from the cocoons and wrought into its present condition by the same fair hand. The account which we have of Mr. S's progress in the culture of silk, is, that he procured a few eggs from the north three years since; that last year he reared 8,000 worms, and this year has made preparations to rear 100,000; that the cocoons produced last year have been reeled and mostly wrought into sewing silk, which has found a ready home market, at a rate equal to the price of the imported article, indeed in point of even texture and quality of material it is scarcely surpassed by the finest foreign silk; that no difficulty was experienced from the weather and climate to the health and operations of the worm; that the specimen before us was produced by silkworms fed on the leaves of the common, indigenous black-mulberry.

The specimen before us has served to recall our reflections to the subject of the production of silk by the people of this region. Blessed as we are with a climate congenial to the health of the silkworm—with a soil natural to the production of every species of the mulberry, and even such portions of it as now lie waste and useless, might, by the culture of silk, be made profitable.—Indeed, we think, every inducement is held out to all who havo lands to turn their attention to this new, interesting and profitable occupation. There are a sufficient number of black mulberry trees now growing on the lands of almost every farmer in this region, to rear several thousand worms, and commence an experiment, which if it does not afford much profit at first, and though the silk so produced may not be as white and fine as that produced from other kinds of mulberry, yet, it will afford an opportunity to test the value of the business and sufficient experience that when they shall have obtained (by planting the seed or by cuttings) other species of the mulberry, they may be prepared to reap a munificent profit for their enterprize. Sufficient experiments have been made in the states of Connecticut, Pennsylvania, South Carolina, and this state, to convince all who have paid any attention to the subject, that the United States can produce silk of as good and even a better quality than can be produced in any other part of the world. It has also been satisfactorily proven, that the production of silk is a very profitable and simple business—a business which may be prosecuted by almost any and every individual. The silk-growers in the northern states labor under one disadvantage which is not felt here. They are obliged to keep the worms in close rooms which are warmed by means of stoves. In this state, to the contrary, no fire is necessary; and small children and young negroes, who are of no other service, can be profitably employed in supplying the silkworms with food and taking all the care necessary to the securing of the cocoons. With circumstances of this nature in our hands, we would direct public attention to this important enterprize. We have from time to time copied such essays on the cultivation of silk, as we thought useful in conveying an idea of the proper mode of treating the worms and the reeling of the silk, &c. In our paper of the 21st ult., statements will be found of the value of the silk produced, and the kind of labor necessary to prepare it for market, the quantity produced by a given number of worms, the price of the cocoons and the nett profit which would accrue to those engaged in its cultivation. It might be remarked, with much reason, that lands which have been already reduced and impoverished by the culture of tobacco, corn, and cotton—lands which the owners will ere long be forced to forsake for new ones in the west, unless their attention be turned to the production of some new article, or until they shall set about some plan for the improvement of the same,—are yet capable of producing the mulberry; and, that energetic and enterprising citizens may yet reap a rich, continued, and abundant harvest, by the culture of silk.

A New Machine for Threshing Grain, Shelling Corn, and Grinding Apples.

We had the pleasure a few weeks since, of witnessing the operation of a machine for the above purposes, invented by Mr. Alonzo L. Smith, of Weedsport, Cayuga Co.—The labor-saving properties of this machine to farmers, we think, must rank it as superior to others, now in use, combining as it does, in one machine, facilities for so many departments of labor by a simple change of apparatus. Since the first trial of this valuable improvement, which we had the pleasure of viewing, we understand, that in presence of a number of witnesses, with only three persons to attend the machine, oats were threshed at the rate of sixty bushels to the hour, or one bushel a minute; wheat and oats were threshed perfectly clean. This machine is only two feet in width, and will be warranted to thresh as fast as any other machine of its size, with less horse power. The whole machine is of a simple construction, strong and durable, and can be afforded complete for about the same price that the common kind of machines for threshing grain alone are sold.

That part for threshing grain can be afforded considerably less than any offered for sale in this country of good quality; no machine now in use will surpass it in the work it is intended to do. It is calculated that from 100 to 150 bushels of corn can be shelled perfectly clean, or from 150 to 200 bushels of apples be ground fine in one hour.

The whole machine will not occupy more room than a common fanning mill, and is so constructed that it can be removed from one place to another, as may be required for its different uses, with very little inconvenience.

The part for shelling corn and grinding apples, can be operated by hand power to good advantage, and the grain threshing part will operate by hand as easy, and in as good advantage as any other machine.

[*N. York paper.*

HEMP.

A company has been formed in Farmington, in the state of Maine, for the purpose of encouraging the cultivation of hemp and erecting machinery for dressing and preparing it for market. The company is called the "Farmington Falls Hemp Company." Their machinery will be in operation by the first of August, in time to receive the crops of this year's growth. It is believed that farmers may make a profitable business by turning their attention to the raising of hemp. A flourishing establishment for dressing hemp, as our readers are already informed has been in operation the year past in Livermore.

[*Portland Courier.*

It is stated in the Poughkeepsie, N. Y. paper, that last winter, several fowls were missed from a farmer's hen-roost, and while the family were talking of the matter around the fire, the house dog brought in a hen motionless from cold, and laid her on the warm hearth and went back and forth till he brought in the whole that were missing, they having been benumbed in a corner of the yard.

THE FARMER.

Baltimore, Friday, June 17, 1831.

Horticultural Society.—The main object of the Editor's visit to Philadelphia recently, was to obtain information relative to the nature and practical operation of the Horticultural Society of Pennsylvania, with a view to recommending the establishment of one in Maryland. If he believed in the expediency of one before, he has now become convinced of its necessity. The beneficial tendency of such associations must have been apparent to every one who visited the exhibition in Philadelphia. Their benefits are not confined to any particular class of citizens; but the whole community are directly interested in them. The dissemination of horticultural knowledge; the improvement of vegetables, fruits, and flowers, and the introduction of new and valuable varieties, are the objects to be attained by horticultural societies. And are these objects matter of indifference to any citizen? Surely not. Every new vegetable or fruit, and every improvement of either, ministers directly to the comfort and well being of mankind; for although we may have had enough before, (which is not the case,) it at least increases our variety and diminishes our liability to deprivation. But on this point argument is deemed unnecessary; the utility of such improvements, we believe has never been doubted; and the only question at present is, will the formation of a Horticultural Society effect these objects? For ourselves we have no doubt of it. And in this we are not left to conjecture, nor to the deductions of theory for our conclusions—we have the results of European societies, and several in the United States before us all. There is scarcely a table, or an orchard, or a garden in the Union, but daily bears testimony to the good effects of horticultural societies, either American or foreign. We taste them in our improved vegetables and fruits; we see them in our beautiful flowers and shrubbery; they give a zest to our viands, decorate our walks, and emit sweet perfume in our evening arbours.

Another object to be attained by a horticultural society, is the cultivation and diffusion of a taste for flowers; nor is this a matter of trifling consideration. Were we required to tame the ferocious spirit of a Gibbs, we would confine the monster amid the luxuriant fruits and beautiful flowers, and compel him to inhale the odours, of a fine garden—nothing distrustful of our ability to accomplish the task. It may have happened but we have never yet heard of any of the numerous personal conflicts that have given such a character of ferocity to human nature, having originated in a garden; and when we consider the great number of public gardens in Europe and America, and the multitudes that resort to them, we may be allowed to attribute this absence of the evil spirit to the peculiar influence of the place. It is by no means uncommon for us to hear of duels and other personal conflicts originating in almost all other places of resort;—but in a garden never. The cultivation then of a love of flowers and of gardening generally, seems to be one of the best if not the most efficient means of molifying the human mind, and it should be encouraged by every philanthropist and every patriot. The best means by which we can do so, we repeat, is the establishment of horticultural societies, for the encouragement of improvements in gardening, and the diffusion of a taste for flowers and shrubbery by public exhibitions. Hundreds of persons became admirers of flowers at the exhibition in Philadelphia, who, we are persuaded, never before scarcely gave them a thought. They had no idea that there were such things in the world. This was plainly apparent from the numerous questions asked as to the names of the most common plants and what they would cost; and we have no doubt that that exhibition caused the sale of hundreds of dollars worth of plants that would not have been sold under other circumstances. But even if there were no such good effects to follow, we would urge the propriety of such exhibitions in every city and town in the Union as a most delightful and wholesome recreation to the inhabitants, from which the possibility of immoral tendency is excluded.

We hope therefore that immediate measures will be taken for the establishment of a horticultural society in Maryland. It will not require the expenditure of much money to accomplish all the objects looked for. The members of the Pennsylvania Society pay three dollars annually, and this, with the proceeds of the exhibitions, defrays all expenses. We have public and private gardens enough to make up a very respectable exhibition at the start, and each year would add to our means. But these exhibitions are not the only objects of such a society, they are rather demonstrations of their results;—there will be enough for a society to do of other matters. There are many gentlemen whom we know are anxious for the immediate establishment of one, and we hope that some of them will immediately call a meeting for the purpose. It only requires some one to take the responsibility of starting it and it is done.

Cane Grain.—*Arundo tecta?* We have a small parcel of the seed of Cane-brake or reed, which grew this spring in Nansemond county, Va. in the borders of the Dismal Swamp. It is very much of the form of rye, but much larger, and the skin of a darker color. It has ripened this spring in considerable abundance, so that some of the people in the vicinity have gathered many bushels of it and had it ground and made into bread, which they assure us was superior to that of wheat. The grain is not as firm as wheat, but the flour appears equally white. It has a sweet taste, somewhat resembling half ripe wheat. Were it not for the singular habit of this plant in not flowering or producing seed oftener than once in five or six years, the Dismal Swamp would become a source of immense wealth to the adjacent country. But as it is, any benefit from its cultivation is hopeless. It is said by some that it only flowers and bears seed once in twenty years; but this is a mistake, as it did so in 1804, and 1811, and several times since.

Aracacha and Quinoa.—The present appearance of these new vegetables in the Editor's grounds is highly flattering. The Aracacha is growing finely, notwithstanding the irregular weather; and, so far, appears to be as well adapted to the climate as parsnips. One plant has already a few seed set. Many of the plants of the Quinoa are a foot high, and all are growing like weeds. It was planted May 13th, and came up May 20th. It resembles closely, and is a near relative to a weed commonly called *lamb's quarter*. Should these new vegetables succeed, of which there seems now scarcely a doubt, the country will have two most important additions to its agricultural products. The Editor takes this occasion to say, in answer to the inquiries of numerous correspondents, that if he succeeds in their cultivation, he will be able to spare a small quantity of both vegetables in the fall, and will give timely notice through the Farmer.

THE WHEAT CROP.

Mr. Smith: *Buckingham, Co , Va. May* 21, 1831.

The wheat crop in this part of the country will be shorter, from present appearances, than it has ever been known by the oldest farmers, occasioned by the fly; many of the fields will not make more than was sown. And this, Mr. Editor, you must know is one of the finest districts of country for wheat in the United States. Yours, &c. P. Jr.

Agricultural Prospects in North Carolina.
Extract of a letter from Wake Forest, dated June 8, 1831.

"The long and severe winter gave reason, it was supposed, to hope for a mild and favourable spring: in this we have been disappointed. The whole season has been cold with the exception of a few days in the middle of May, when the thermometer rose to 91 degrees. The effect upon the cotton crop has been very injurious. Many fields, which came up not at all or imperfectly, have been ploughed up and some replanted in cotton, and others more wisely planted in corn. The cotton that stands preserves a lingering sickly existence, halting between life and death, and without very favourable circumstances hereafter, much cannot be expected from it. Wheat, which of late is becoming in this section a considerable crop, is middling. By a late western paper, and by a letter just received from Chatham, it appears that the Hessian fly is very destructive in the up-country. Here the fly never did injury, possibly from wheat always following corn or cotton."

A correspondent of the New York Evening Post thus closes a very complimentary notice of the recent horticultural exhibition in Philadelphia:—

A peculiar order of things has sprung up in the city and neighbourhood of Philadelphia, under the fostering care and well directed energies of the excellent founder of the horticultural society. It has been no less his aim by disseminating useful knowledge to enlighten the minds of those who are engaged in the operative branches of horticulture, than to increase the wealth and consequence of the community to which the institution belongs. To the citizens this establishment has been of incalculable advantage, for they can now have an abundance of the rarest and best fruits and vegetables at a comparatively low price; we trust that they will ever gratefully remember to whom they are thus indebted, and that they will continue to "give honor where honor is due."

It is to Dr. Mease that the people of Philadelphia are under such obligations. This gentleman, having leisure, industry and zeal, and being, withal, fond of scientific pursuits—blessed too, with a happy temperament which delights in contributing to the comfort and pleasures of others, has devoted his whole life to patriotic purposes,

Linnæan Gardens at Flushing.

Prince Paul, of Wurtemburg, whose extensive travels, and scientific attainments are so well known, attended by his suite, paid a visit the last week, to the Messrs. Prince's, proprietors of the Linnæan Botanic Garden and Nurseries at Flushing, Long Island, and expressed himself highly gratified at the great extent and high culture of the grounds, and at the immense collections of trees and plants concentrated therein, from every clime. This distinguished stranger is a great proficient in Botany, as well as in the other natural sciences.—*N. Y. Com. Advertiser.*

(From the Ontario Repository.)

Black Cherry Tree.---A medical correspondent of the Cooperstown Watchtower, says that the bark of this tree is poisenous. He relates the case of a young lady to whom he was lately called, and who, in consequence of drinking about half a pint of cider, taken from a closely stopped bottle filled the evening previous with cherry bark, fresh from the tree, was seized with vertigo, stupor and syncope, followed by great difficulty of respiration and vomiting. Similar effects were produced in a slighter degree upon another person, who took from the same bottle a smaller draught of cider. He says that the French chemists have recently ascertained that the deleterious principle of the cherry, laurel and the kernel of the peach, is very analogous to *prussic acid*. This acid in its concentrated state, if a feather be dipped into it and drawn across the eye of an animal, produces instant death. Two drops, says the writer, have been known to kill a vigorous dog in a very few minutes.

FOREIGN MARKETS.

Liverpool, *Monday, May* 16.

Cotton.---There was a fair inquiry for cotton last week, but the holders being disposed to meet the demand freely, a slight decline may be noticed in the prices of American descriptions, which we quote 1-8d per lb. lower during the last fortnight. The sales (of which 1200 Maranham, 200 Bowed, and 600 Surat have been taken for export,) amount to 18,070 bags, consisting of 6920 Bowed, at 5⅛d to 6¼d, chiefly at 5¾d to 6d, for middling to fair; 2810 Orleans, at 5¾d to 7½d, chiefly at 6½d to 6 7-8d, for middling fair to fully good fair; 3160 Alabama and Mobile, 5⅛d to 6 3-8d; 160 Sea Island, 10½d to 12½d; 50 stained, do. 6½d to 9d; 700 Pernambuco, 7d to 8d; 2290 Maranham, 6½d to 7 3-8d; 930 Bahia, 6½d to 7¼d; 250 Egyptian, 8½d to 9d; 30 Demerara, 8¾d; 30 Barbadoes, 6¼d; 640 Surat, 4d to 5d; and 100 Bengal, at 4d per lb. The imports are 2451 bags.

Drysalteries.---The demand for ashes has been very limited, and only 100 barrels of Montreal pot have been sold, at 30s. 6d. to 31 s. and 100 barrels of pearl, at 34s. per cwt.

Evening, May 16.

Cotton.---There has been a better inquiry for cotton to-day than for some days past, the sales amounting to from 3000 to 4000 bags, at former prices. On Saturday 1500 were sold.

Liverpool Corn Market—*Monday, May* 16.

In our report of last Tuesday's market, we had occasion to note a reduction of 3*d* to 4*d* per bushel in the prices of wheat; 1*s* to to 2*s* per bbl. on flour; 1*d* per 45 lbs. on oats; 2d per 60 lbs. on barley, and a corresponding abatement in the value of most other articles of the trade. The imports subsequently have been less extensive; still the trade remains dull, and the prices of that day barely supported. The duty remaining for another week at 6*s* 8*d*, has prevented the millers from purchasing as freely as they otherwise would; but some purchases in Odessa wheats were made during the week at 7*s* 10*d* to 8*s*, and a few thousand bbls. of flour changed hands at 33*s* to 35*s*. Some good mealing oats were on Saturday sold at 3*s* 8*d* per 45 lbs. which is fully 1*d* below the quotations of Friday.

London, *May* 13.

Cotton.—The cotton market wears a firm aspect, and fair business is doing.

London Corn Exchange—*Friday, May* 13.

The large accumulation of grain, by the contribution of fresh arrivals, has produced, in continuation with American flour, almost a stagnation in the market, and to effect sales in wheat lower prices must be taken.

Manchester Corn Market—*Saturday, May* 14.

Our market this day was excessively dull, and the business done in all articles was very limited, at a reduction on the prices of this day se'nnight, of fully 3*d* per bushel on wheat, from 1*s* to 2*s* per sack, and from 6*d* to 1*s* per brl. on flour; 1*d* per bushel on oats, and from 1*s* to 2*s* per load, on meal. Other articles remain as last noted, with a very slow sale.

Prices Current in New York, June 11.

Beeswax, yellow 22 a 23. *Cotton*, New Orleans .10 a .12; Upland, .8 a .10½; Alabama, .8½ a 12. *Cotton Bagging*, Hemp, yd. 18 a 20; Flax 12½ a 16; *Flax*, American, 7 a 8.-----*Flaxseed*. 7 bush. clean .---- a .---- *Flour*, N. York, bbl. 5.00 a ---; Canal, 5.12 a 5.50; Balt. Hwd. st. 5.25 a 5.37; Rh'd. city mills---- a ---- country, 5.12 a ---; Alexand'a, 5.25 a ---; Fredericksburg 4.87 a 5.00; Petersg 5.00 a -----; Rye Flour, 3.75 a 3.87; Indian Meal, per bbl. 3.87½ a 4 00; per hhd. 18.00 a ---- *Grain*, Wheat, North, 1.01 a 1.03; Vir. 1.00 a ---; Rye, North, 80 a 81; Corn, Yel. Nor. 72 a 73; Barley. — a —; Oats, South and North, .39 a .40; Peas, white, dry, 7 bu. 5. Beans, 7 bu. 7.00 a 8.00. *Provisions*, Beef, mess 8.50 a 9.25; prime 5.75 a 6.25; cargo 4.62½ a 5.00; Lard, 9 a .10½; Pork, mess, bbl. 14.50 a 15.25; prime 10.50 a 11.50.

IMPROVED DEVON BULLS FOR SALE.

The subscriber has for sale two Yearling Bulls of fine form, and very large size for their age, out of superior Cows, supposed to be of the common kind, and sired by a full blood Devon Bull; the Cows gave when fresh an average of 20 quarts of superior milk per day for the first three months; they were raised by the subscriber along with one other, on account of the extraordinary quality of the Cows, and the price asked, will not more than pay for raising. Price $25 for choice of the three. Apply to Robert Howard at his farm, on the Harford turnpike, where the Bulls are to be seen, or to R. HOWARD, & Co.

June 17. Hillen St. Baltimore.

J. S. EASTMAN,

No. 36, West Pratt Street,

OFFERS, at *Wholesale and Retail*, Hay and Manure FORKS, and Scythe SNEADS.—Also for sale, Grain CRADLES, and Cradle SCYTHES, Grass SCYTHE, English and American, with and without Sneads, Wheat FANS. Scythe STONES, &c. &c. Together with his usual assortment of PLOUGHS, and other AGRICULTURAL IMPLEMENTS, Garden Seeds, &c.

A fresh supply of FLOWER SEEDS, just received from the Messrs. Landreth's.

June 3.

WOOL WAREHOUSE.

LYMAN REED,

Commission Merchant, No. 195 *Baltimore street,*

Devotes particular attention to the sale of WOOL. Any consignments of the article forwarded to him for sale, can be disposed of immediately for CASH, at the highest market price.

CASH, and a fair price, will be paid for a few thousand pounds of *good wool*, (if offered immediately,) to supply orders now on hand.

Refer to Messrs. Cobb, Wyman & Co. Baltimore.

CASH FOR WOOL.

The subscriber is in this market as a purchaser of wool for eastern manufacturers, and will pay cash and fair market prices for every description of American wool. RICH'D MESSITER,

No. 5 Light street wharf, up stairs.

May 20. 2 m.

BALTIMORE PRICES CURRENT.

Baltimore Market.--The flour market still continues depressed, and there is now no prospect of an improvement which can affect the old crop. The wagon price of Howard street was $4.50 yesterday, but the unfavourable accounts from Europe have caused the suspension of all transactions. There is no store price at this time. Our quotation of city mills flour is for fresh ground There was a most splendid lot of Lloyd's white wheat sold yesterday at $1.15, and another of ordinary quality at $1.05. There has been a fair supply of beef, and the price has declined to $7.00 for best quality.

Tobacco.---Seconds, as in quality, 3.00 a 5.00; do. ground leaf, 5.00 a 9.00.---Crop, common, 3.50 a 4.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 10 00; yellow and red, 8.00 a 14.00; yellow, 14 00 a 16.00.—Fine yellow, 16.00 a 20.00.—Virginia, 4.00. a 5.00.—Rappahannock, 3.00 a 4.00——Kentucky, 3.50 a 8.00. The inspections of the week comprise 782 hhds. Md.; 32 hhds. Ohio; and 4 hhds. Pennsylvania;—total 818 hhds.

Flour—best white wheat family, $6 25 *a* 6.75—super. Howard-st. —— *a* ——; city mills, 5.00 a 5.12½ Susq. 5.00 *a* ----; Corn Meal, bbl. 2.25; Grain, Md. red wheat, 90 *a* 1.00; white do. 1.05 *a* 1.15, Susq. 1.05 *a* 1.10-Corn, white, 65 *a* 68- yellow 63 *a* 65-Rye, 65 *a* 67. Oats, .33 *a* 34. Beans, 75 *a* 80--Peas, 65 *a* 70—Cloverseed —— *a* —— Timothy. 2.00 *a* 2.50--Orchard Grass —— *a* ——-Tall Meadow Oat Grass 2.75--Herd's, 50 *a* 75---Lucerne 30 *a* 37½ lb.——Barley, ---Flaxseed --- *a* ---Cotton, Va. 9 *a* 9½--Louisiana 10¾ *a* 11½—Alab. 9½ *a*. 11—-Tenn.. 9 *a*. 10---N. Car.. 9 *a* .9½—Upland 8 *a* 9½—Whiskey, hhds 1st p. — *a* 34—; in bbls 36 *a* 36½—Wool, *Washed*, Prime or Saxony Fleece 63 *a* 75; American Full Blood, 60 *a* 65; three quarters do. 55 *a* 60; half do. 50 *a* 55; quarter and common do. 45 *a* 50. *Unwashed*, Prime or Saxony Fleece, 40 *a* 45; American Full Blood. 38 *a* 40; three quarters do. 35 *a* 38; half do. 33 *a* 35; quarter and common, 30 *a* 33---Hemp Russia ton, $255 *a* —; Country, dew-rotted, 7. *a* 7½c. lb. water-rotted, 7½ *a* 8c.-Feathers, — *a* 35-Plaster Paris, per ton, 3.75 *a* —, ground, 1.37½ *a* —- bbl.—Iron, gray pig for foundries per ton 33.00 *a* ——; high pig for forges, per ton, 28.00 *a* 30.00; bar Sus. per ton, 80.00 a 90.00.—Prime Beef on the hoof, 6.50 *a* 7.00—Oak wood, 3.00 *a* 3.25--Hickory, 4.50 *a* 4.75—Pine 2.00 *a* 2.50.

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EDITED BY GIDEON B. SMITH.

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6. All letters concerning this paper must be directed to the publishers. They must be free of postage, except communications intended for publication, and letters containing money.

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AGRICULTURE.

(From the Southern Agriculturist.)

ON PLANTING COTTON.

"*Rocky Grove, Abbeville, Feb.* 11, 1831.

Dear Sir,—The manner in which cotton was generally planted in the Calhoun settlement, Abbeville district, until within six years past, was as follows:—The land being first well broken up with the plough; furrows were then laid off across the ploughing with a gofer[*] plough, at from three to five feet apart, according to the strength of the land. Upon these furrows ridges were formed, by running on each side of them with a shovel or mould-board plough. Drills were then made in the ridges, by opening them with a gofer plough, and cotton seed sowed therein, in quantity, from two to four bushels per acre. The seed was then covered with a light wooded toothed harrow, or a board drawn along the ridge by a horse. By this manner of planting, the ploughman passed along each drill five times before the planting was completed.

For the last six years the following manner of planting has been generally adopted here, in decided preference to the above. The land being broken up and furrowed as before mentioned, the cotton-seed is sowed in those furrows, in quantities as above. A bold ridge is then thrown on the seed, by running on each side with a shovel, or mould-board plough. Through this ridge the seed is not expected to come up, nor indeed is it desirable that it should. After the seed has been in the ground a sufficient time to allow it to sprout and send its root down an inch or an inch and a half, the shovel (which is secured to the stock of the plough by a three-quarter inch screw passing through a hole made in them, and fastened behind by a tap,) is then taken off, and in its place, is fastened to the stock, in the same manner, a board about eighteen inches long, and ten inches or a foot wide; the length of the board being placed across the heel of the plough. With this implement, drawn by a horse, the ridge which was thrown on the seed is scraped off nearly to a level with the rest of the field, when the planting is completed, the ploughman having passed along each drill only four times instead of five as in the former method. In performing this last operation, a good deal of the sprouted seed is destroyed, the labourer being directed to scrape off the ridge sufficiently to uncover occasionally some of the seed; but there is still left more than seed enough for a stand. If the ridge is not scraped off too soon, and the scraping is properly done, the seed, which has already sprouted, will come up in from one to three days, sufficiently thick for a stand, according to the warmth of the weather and the degree of moisture in the ground; but if scraped off too early, or not scraped off sufficiently deep, the seed will be longer in appearing above ground, especially if the weather is cool. The mode of ascertaining the proper time for scraping the ridge off, is by searching the ridges in a few places, to ascertain to what degree the seed has sprouted. Persons unaccustomed to this manner of planting, will be apt, from apprehension of injury, to scrape the ridges off too early and too lightly, and thus, in some measure, lose the advantage of giving the cotton a start over the grass, which this manner of planting so eminently does.

The advantages of planting in this manner over the former are four-fold. First, one-fifth of the ploughman's labour is saved at the time of planting; secondly, the seed will come up earlier, and with greater certainty, should there be a drought at the time of planting, or should hard beating rains occur before the seed is up; thirdly, the cotton has an important start over the grass, and from having the earth so recently stirred about it, is less liable to die when young, (as much of it frequently does before it has received the first working with the hoe,) and grows off more kindly; which will enable a hand, fourthly, to work over more ground with the hoe at the first working. When the ridge is scraped off, the work is so very light to the horse, that he will go over with great ease, from seven to ten acres in a day. Two years ago, on the morning I intended to scrape off a twelve-acre field, it rained; the happy consequence of which was, that the sprouting of the seed being further advanced than I was willing to risk, the cotton was beautifully up in the drill, and sufficiently so for a stand before sun-down, on the same day on which the ridges had been scraped off before breakfast; thus giving the cotton a decided start over the grass. Fear need not be entertained, that the horse, by trampling on the ridge when scraping off, will destroy the sprouted cotton seed; experience has proved the contrary. Where the land is low, so as to require bedding or ridging up, this manner of planting should not be attempted; but on high land, from five years experience, I give it a decided preference to any other mode I have seen tried, and so do most of my neighbours; one or two, however, adhere to the former method. It sometimes happens, in the stiff soils of the upper parts of South Carolina, after hard beating rains, that the land bakes, and forms a crust so hard as to prevent the seed when covered with the harrow or board, from coming up. In such a case, this crust is broken either by a light harrow, drawn by a horse over the drills, or by raking or hoeing on both sides of the drills, to enable the seed to come up. But neither of these plans will always succeed, and planters occasionally, from such cause, have to plant over a part of their crop. Now, this occasional risk and loss of labour, cannot occur when the manner of planting above recommended is adopted, unless the planter scrapes off too early; which if he does, it is his own fault.

But, as a set off against this occasional advantage, it has been objected, there is a possibility that on the day the ridge should be scraped off, a spell of wet weather might commence, and continue so long as to occasion the seed to rot before the scraping off can be performed. But this kind of weather seldom occurs in April, when cotton is generally planted. However, just at this supposed critical moment, a spell of two or three days of wet weather did occur in 1826, and I felt some anxiety about a part of my crop, especially as the seed which was lightest covered, were, in a great many places, up before I could scrape off. Nevertheless, as soon as the weather would permit, I scraped off, although the ground was much too wet to be ploughed, and although I necessarily destroyed a great deal of the sprouted seed, yet I never had a more satisfactory stand of cotton, whilst in a small low part of the field, where it continued for some days too boggy to scrape off, the seed, (the quantity sowed, three to four bushels per acre,) sprouting together, forced their way through the ridge plentifully for a stand, and to spare. The fact is, seed, if prevented from weight of earth from coming up, will yet remain many days in a sprouted state, before it will rot. I do not, therefore, consider this objection a serious one;—no such loss has yet occurred. It is also objected, that a careless labourer may scrape off so deep, as to destroy or remove too much of the seed. This is certainly possible, but as it has not happened in this neighbourhood during the six years we have been so planting, (nor elsewhere, that I know of) the objection is more specious than sound. The advantage given by the scraping-off plan to the cotton, when judiciously performed, as to time, is considered by those who have tried it, as being a benefit but little short of a working.

Thomas Parker.

Accustom yourself continually to submit to a small present evil, to obtain a greater distant good.

(From the Southern Agriculturist.)

On the Best Mode of applying Cotton Seed and Stable Manure; by A Practical Planter.

"*Near Mo. Vintage, P. O. Edgefield District, S. C. Feb.* 23, 1831.

Mr. Editor,—There is perhaps no subject in which there is so great a diversity of opinion as that of agriculture, and it is a misfortune, that treatises on it, are so much at variance. This may in a great measure be attributed to theoretical speculations, and immatured practical experiments. One writer will state, that cotton seed as a manure is best applied in one way, another will give quite contrary advice, and both say they have succeeded, still there is an inquiry about the best mode of application. One planter will tell you, that the best way to clear, and prepare new land, is to grub the under-growth, and plough in the leaves. Another will cut down the under-growth, and burn off the leaves, considering the roots will act better as a manure than the leaves; still this remains unsettled as regards the utility.

One will pursue horizontal culture in a hilly country, another will advise it to be done diagonally, a third perseveres in the old plan of the up and down hill system; ask them all, and they will tell you their way is best. On the sea-board of the lower-country, where nature has provided an inexhaustible source of marine manure, which has been brought into sufficient use to test the best mode of preparation and application, the same difficulty appears to exist; that this should be the case, where there is such an abundance of labour, combined with wealth and science, is astonishing. Some excuse may be offered for the up-country planters, who require all their force to be applied to a specific object to gain a support, leaving them no supernumerary means to carry fully into effect, those experiments, that would otherwise ultimately benefit them.

I have been led to these remarks, from the productions in your volumes, as well as other periodicals on the same subject. The great object, it appears to me, is to arrive at a system of husbandry in the application of the means that is afforded us on the most economical plan. What benefit does agriculture derive from the exhibition of an extraordinary large potato or turnip, or a single acre of corn producing eighty or a hundred bushels, when the means applied for these productions cost more than their value. Let us exhibit the returns of a whole crop, and the mode adopted to give these returns, and not merely partial attempts to gain a reputation; this should be our guide:—by which the agricultural interest would be advanced, and instruction afforded to the planter; it will act as a stimulus to imitation, and will no doubt be attended with beneficial results.

As far as my experience goes, I would recommend the application of cotton seed as a manure to corn; after the vegetating quality is destroyed, to be put to the corn when from six to twelve inches high, according to the time that can be appropriated to this work, by digging with a hoe on each side of the corn, sufficiently deep to admit of a large handful or more to be put in each hole, and sufficiently covered over to prevent evaporation from the sun.

Fresh cotton seed should never be used, because the greater part will sprout, and the manuring quality will be destroyed, it is only the oil which this kind of manure possesses, that makes it so valuable, besides when it comes up in a great mass it opens the earth about the plant, so as to admit air which dries the earth about its roots. Fresh cotton seed can, however, be soon prepared for use. Have it carried out into the fields, and placed in piles at convenient distances, make these piles pretty large, and have the tops of them made concave, and through the centre drive a stake into the earth, and in the absence of rain have pails of water frequently thrown in this moisture, with the sun acting on it, will in a short time heat the seed, if it is perceived, that the circumference of these piles do not become heated in time, open them and throw the outer part into the centre. I have applied it so hot to the corn, that it was difficult to handle it.

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[*] A gofer is a narrow shovel plough, from 5 to 6 inches wide.

As we are now on the subject of manure, I would further observe, that in my view, the best mode of applying stable, cow-pen, or other manures, is broad cast, and immediately to plough it in, but as we are not furnished with a sufficient quantity to do this to any extent, the drill mode is to be recommended; this should be done by making a furrow about a foot deep, in which scatter the manure and cover it over flush, the holes or furrows made for planting, will be above the manure, but the roots of the plant will soon reach it. The hoe is to be preferred in case a drill is made for planting, for the horses destroy the bed too much in the operation, the covering may be done with hand rakes, which leaves a smooth top on the beds, taking all the stalks and trash that may have been thrown on it by the plough, and will in some measure separate the seed without drawing them out, as it is passed lightly over the beds. We cannot expect that manure will act every year alike, all depends upon the seasons, it has been found, that stable manure particularly, in an extreme dry season, has proven injurious, from what is called firing the corn, and in floods of rain it is said, that it has been carried beyond the reach of the plant in the bowels of the earth. Hence may have arisen the diversity of opinion as regards manuring, to which I have alluded. from the want of that observation, which can only constitute the successful planter.

The fact is incontrovertible, that if it was not for manure, and good tillage, the European countries would long since have been depopulated.

(From the Genesee Farmer.)

THE POTATO.

Extract from the Address of Benjamin Franklin Butler, Esq. to the Albany Institute, April 23d, 1830.

As agriculture furnishes to all classes of society, the chief support of animal life, and is the principal basis of national wealth, its improvement has ever been considered, by reflecting minds, an object of primary importance. Having no practical knowledge of the art, I shall not enter into details; but I will venture to say, that there is, in many parts of the state, great room for improvement, if not in the mode of cultivation, at least in the quality of the articles produced. On this latter point, those who have no knowledge of husbandry, may yet be permitted to express an opinion. To illustrate what is intended by these remarks, and at the same time to avoid prolixity, a single article has been selected—it shall be an humble one—THE POTATO.

The value of this vegetable as an article of food, not only for man, but for various domestic animals, is well understood. It must also be well known, that there are many varieties, differing greatly in flavor, in nutrition, and in healthfulness. Indeed, there is no article of food in which diversities of this sort exist to so great a degree: as will readily be admitted by those who have compared the *kidney* or *pink eye*, (varieties recently introduced) with the strong, clammy, and indigestible roots, formerly grown in such abundance in this vicinity. I do not know how it may be in other parts of the state, but I am persuaded that in this city, four-fifths of the potatoes that are brought to market are of the old varieties. Here then is a subject for improvement—one too of great importance. Probably three-fourths of our population use the potato as a part of their daily food; and surely the supplying so many persons with the article, in a form the most healthful, palatable and nutritious, cannot be a small question.

This, however, is but a narrow view of the subject. We are not to limit our reflections to our present population. We are to look forward to the time when even the sterile mountainous regions which are now rarely trodden by the foot of man, will have their thousands of human beings, whose sustenance is to spring almost exclusively from the soil. On what are they to be subsisted? Doubtless a great proportion of them on the potato; for among the valuable qualities of this vegetable, may be enumerated the facts, that it may be grown where wheat and other bread corns will not succeed; that it may be cultivated with success in almost every variety of soil; and that it yields an abundant return to the labors of the cultivator, and is almost a sure crop. Next therefore to the cultivation and improvement of wheat, the great staple production of this state, there is nothing more justly entitled to the attention of agriculturists than the potato; and he who shall persuade our farmers to abandon the inferior qualities, and to select and perpetuate the best, will not only deserve, but I doubt not receive the honors of a *public benefactor.* I am happy to add, that one of our most scientific and enlightened agriculturists—(one too, who has already laid the horticulture and husbandry of New York under great obligations.) is now devoting much of his attention to the cultivation of the potato. To wish him the highest success in his endeavors—is not less the dictate of patriotism and philanthropy, than of kind feeling and personal respect.*

But my reference to this vegetable must not terminate with the observations just made. It furnishes one of the most interesting and beautiful illustrations of the benefits which science has conferred on mankind.

The potato is a native of America; and though the honor of its introduction into Europe has been divided between Sir Walter Raleigh and others, yet it admits of no doubt that the old world is indebted for this addition to its products, to the science of navigation and the labors of the naturalist. Throughout all Europe, it is now a most important article of food, and its introduction into that continent has more than indemnified it for all it has lost by emigration to the new world. The Irish were the first who turned it to account, and it now forms, as is well known, the principal food of their laboring population. The French proscribed it, because it was imagined that various disorders were occasioned by its use. It was more than two centuries before the popular prejudices existing against it in that country, were entirely overcome, and then only by the instrumentality of a scientific chemist—the distinguished PARMENTIER. The zealous and successful exertions of this benevolent man, were so honorable to his character and so useful to his species, that I cannot resist the opportunity of noticing those to which I have referred, a little more particularly. He was employed, during the war of 1756, in the hospital department of the army of Hanover, and in consequence of his zeal in the pursuit of knowledge, which often led him to imprudent exposures, he was five times taken prisoner, and more than once subjected to the horrors of famine. Whilst in prison he frequently had no other food than the potato, then beginning to be cultivated, though neither valued nor understood, in the German States. His scientific knowledge enabled him to analyze the qualities of the root, and to discover the uses to which it could be applied. After the peace of 1763, he returned to Paris, and pursued with ardour every branch of science connected with the support of animal life: and it was not long before he had an opportunity of rendering his knowledge most useful to the public. The dearth in 1769, called the attention of the French ministers and *savans* to the vegetables which were calculated to supply the place of bread corn; and the potato was introduced into several districts. The old clamor was revived; and the vegetable was again proscribed, and would have been rejected as poisonous, if Parmentier, in a prize discourse submitted to the academy of Besancon in 1773, on the "vegetables which in times of scarcity, may supply the place of those that are usually employed for the nourishment of man," and in a "chemical examination of the potato' submitted to the comptroller general in the same year, had not vindicated its character and demonstrated its usefulness. Nor did his exertions stop here. He cultivated it himself; he persuaded the nobility to place it on their tables; he induced the king to wear a boquet of potato-blossoms in full court, on the day of a solemn *fete;* he studied the most palatablé modes of culinary preparation; and on one occasion, he gave a dinner, consisting only of potatoes, but of potatoes served up in twenty different forms. The opposition he was obliged to encounter may be judged of from the fact, that when it was proposed during the revolution, to elect him to a municipal office, he was opposed on the ground that "*he would make the common people eat nothing but potatoes,*" for, (said one of the voters) "*it is he who invented them.*" These efforts were continued, in connexion with many others of the like nature, during a long life devoted to the welfare of mankind. His favorite vegetable came into general use; and with complete success. Whole districts, formerly barren, were fertilized and rendered habitable; and his old age was crowned with the delightful reflection, that on two several occasions, great numbers of his countrymen had been saved from the horrors of famine, through his instrumentality.

The principle of these remarks might be extended to every other department of husbandry, and to every other of its products. The thinness of our population, and the facilities for obtaining land, have heretofore contributed to keep down the character of our agriculture; but the time has arrived when it begins to demand the closest attention. Not only is our population constantly augmenting, but our best soils having been first brought into cultivation, we must rely on the improvements of the future, to make not only our inferior soils productive, but those of the first quality also, more productive than heretofore. To effect this, resort must be had to the physical, mechanical, and experimental sciences, all of which have a direct connexion with the art of agriculture, and for that reason alone, independently of other considerations, are entitled to our special regard.

(From the Southern Agriculturist.)

On the Benefits arising from Horizontal Ploughing and Ditching; by A HIGHLANDER.

"*Georgia, February* 24, 1831.

MR. EDITOR,—Most of your readers, no doubt, remember a discussion of the merits of horizontal ploughing, as a mean of preserving soil, conducted sometime last year by Mr. Simkins and Mr. Ellison. It interested me, and all others, I dare say, who have suffered the pain of seeing the rich hill sides of their plantations stripped by heavy rains of the soil to which alone the proprietor could look for the production of crops. This evil is so general and so heavy in all the southern states, that it may be regarded as *the plague* that is annually wasting the substance of the country, rapidly reducing the hilly parts of it to hopeless sterility and desolation. Without a remedy, I think there would be no risk in predicting that within the period of fifty years, four fifths of this kind of surface will cease to be tenanted by the human race, though in its maiden fertility, this very region has been productive of better incomes than any other part of the United States. It is here, that thousands of planters, have in a few years raised themselves, by the fruits of the soil only, from poverty to independence, and many to affluence.

I am acquainted with no country where exhausted fields which lie level, are more speedily and cheaply restored to a good rate of production than the oak lands of South Carolina and Georgia—and think it probable that the process is equally facile on the sandy plains of the "long leaf pine" country. But who has resolution enough to spread manure on a hill side from which the most or all will probably be swept by the heavy rains of a single season? None, who works for any thing but for the sake of work.

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*JESSE BUEL, Esq. The late chief justice SPENCER, whose time is now chiefly devoted to the honorable pursuits of practical agriculture, has also bestowed much care on the cultivation of the potato, and has succeeded in producing the best qualities.

The question then presents itself, can the cultivators of the broken lands find relief against these devastations by the use of Mr. Simkins' prescription, horizontal ploughing, or any other practicable means? This mode of ploughing is not much practised in my neighbourhood, though in other parts of the state it has been for several years, and I believe very generally approved for the purpose under consideration. It is undervalued, I suspect, only by those who have never tried it, or who have been disappointed in extravagant and unreasonable expectations. No one who has ever seen such ploughing really executed, can affirm it to be useless, and the better opinion seems to be in its favour, admitting the fact that less ground can be ploughed a day, on this method, than the usual one of straight furrows. Large fields, of which the surfaces are so inclined as to give a course of two, three or four hundred yards, (or even one hundred yards on any thing like a steep declivity) to running water cannot be so ploughed, with any instruments we are acquainted with, as to prevent the washing away of the surface and formation of gullies. In the space of a week, I think we sometimes have rain falling to the depth of two or three feet, depositing a mass of water that milldams would hardly retain. No planter can wish to retain it, but rather to pass it off as quick as possible and with the least detriment to his soil, which cannot be so well done by any other means as *horizontal ditches* across his fields. By horizontal ploughing, the moderate and fertilizing showers of summer are retained for the benefit of the growing crop or pasture; and by horizontal ditches so located as to pass off to a neighbouring branch or ravine, the redundancy of water that falls at any season of the year, the soil on our hill sides may be made almost as safe and as durable, as that on the level plains. This is not speculation—several experiments are now making in this country which have thus far abundantly established the utility of combining the two, horizontal ploughing and ditching, and clearly shown that the labour and expense of the latter is no impediment to its universal adoption. From the trial I have made, I suppose that half a dozen men, with spades, aided by a good horse and plough can make at least a quarter of a mile of such ditching a day. Ploughing up the earth on the line marked out for the ditch, greatly facilitates the work, for it leaves the men with spades or shovels nothing to do but lift up the pulverized earth to the embankment on the lower side of the ditch, which need not be cut more than about one foot deep, and eighteen or twenty inches wide. The size, however, and the direction of every ditch cut for the purpose of protecting valuable fields from the destructive action of heavy rains, must be dictated by the experience and the discerning eye of the master or manager. They should not be perfectly horizontal, but have such an inclination as to give to the flowing water a gentle current; otherwise a rapid accumulation might break the embankment below, or without sufficient current to carry off the gradual deposits of sand, &c. the ditch would be filled up.

Should others of your subscribers have seen or made experiments on this subject, they could hardly fail to render essential service to our agriculture by communicating results.

To Clean Black Feathers.—Pour a pennyworth of bullock's gall into a wash-hand basin; pour warm water on this, and run your feathers through it; rinse in cold water, and finish them as you would other feathers.

ON BREEDING FOR A DAIRY STOCK.

Mr. Fessenden.—The subject of breeding for a dairy stock, is one of a good deal of interest at this time. Inquiries are frequently made in conversation which show this to be the case. In the present state of our knowledge such questions as the following appear to the writer not at all too elementary.

1. What is meant by a particular breed of cattle?
2. Are there one or more breeds of cows known, by long trial, to be deep milkers?
3. To what extent is *breed* to be relied upon in the selection of a stock for milk?

I propose to make a few suggestions by way of answer to these questions.

There is another which I shall say something upon in another paper with your permission, viz.

On what else, *besides breed*, depends *deep milking?*

It is nothing new to say that the object of breeding (in a technical sense,) is to perpetuate in the progeny, the form, constitution, and particular qualities of one or both the parents. But what I wish to ask attention to, and to enforce in this communication, is the very important fact—that the longer any distinguishing quality, mark, or peculiarity, can be traced back in the ancestry, the more deeply will it be fixed in the descendants, predominating, or taking the place of other qualities of more recent standing in either of the parents.

A particular cow may chance to be a fine milker, but if the parents, for some generations, were not remarkable in the same way, her heifer calves will not probably be good milkers—at least no dependence can be placed upon them. If the sire is of a pure milk stock the chances are very much increased of course.

It is not too much to say from experience, here and in England, that of all the varieties of cows, designated by the terms, Short Horns, Long Horns, and Hornless—or by the names, more limited in their application, as Devon, Hereford, Holderness, Suffolk, Denton, Bakewell, Alderney, &c,—no one of them has been found to give *uniformly* or *generally*, more or better milk than any other.—The evidence before the public, abroad and at home, is contradictory.

There have been individual instances of extraordinary milkers among all—and I may go so far as to say *families*, of extraordinary milkers, among all.

It has been to often taken for granted, that a good cow will produce good calves without inquiry into her parentage or that of the bull to which she is sent—and prejudices have been raised in favor of marks and certain appearances, in such an animal, which have no necessary connexion, or none at all, with her faculty as a milker—and such marks have been allowed to determine the choice of another cow as infallible signs of a good one. The most prevalent popular token now is *the small head and short horns.*—This is so far a good sign, as that the smaller the refuse parts, the nearer will be the approximation to perfection in the more valuable parts, whether for beef or milk—and this is all. So much has been most satisfactorily proved by the conclusive reasonings of Mr. Cline, the eminent anatomist, in an essay published by him a long time since.*

The *Holderness Breed* have the *small head* and *short horns*, but they are esteemed in England much better fitted, in general, for the shambles than for the dairy. An established dairy stock might, no doubt, be raised from them by a careful selection of individuals, *male* and *female*, from a *milk family*. But it would be too much to say of so large a class as the Durham, Denton or Hereford, though all *short horns*, that bearing either of those names, they may be relied upon as good milkers, and to produce uniformly good milkers.

If the experience of the country will not bear the writer out in this remark he will be glad to find the dairy stock so much in advance of his opinion.

The Devon cows are not considered in England to be so good for milk as some other kinds. And yet Mr. Coke, the gret Norfolk farmer, sent to a friend in Maryland, several years ago, a number of Devonshire cows, bred by himself, which were remarkable for quantity and quality of milk. They were bred on the side of both male and female, we presume, from animals whose progenitors were distinguished for this same quality: had he frequently crossed the blood of the Devons with any of the several kinds of Short Horns, whose descent, from an equally good stock for milk, had not been so well guarded, this same family would in a few generations have given evidences of material depreciation.

The truth really is, that we have yet the work to do to establish a pure milk breed.

To accomplish this, we must have a class of farmers who shall be *professed breeders* of a dairy stock—they will employ no bulls but such as come of good cows, they will raise no calves but from first rate cows. They will keep the heifers for some generations, sending off to the butchers such as turn out indifferent milkers; as some there will be, in whom the faults of remote parentage will be found to linger.—A herd thus carefully purged, and finally, after a few years, exhibiting a uniform character, *for milk* in the young, as *they come in*, will prove a lasting and sure source of increasing profit to the skilful, intelligent breeder, and an immense gain to the country.

The writer would ask, suppose a young farmer at the present moment is about to stock a milk-farm and is willing to pay the full value of good *cows*—good, we mean *as breeders*—where shall he go for them, in New England? Where shall he be sure to find an established milk breed that will not disappoint him? He will find *improved* breeds enough—but who will venture to insure him that the improvement will not be found to consist as often in adaptation to the shambles as to the dairy?

The idea suggested, whether well or ill founded, let others judge, is that we have not yet a pure *milk-stock*, that is, a stock descended for many generations from none but fine milkers. Some may think that the art of breeding cannot be carried so far as to secure a uniformity of excellence in this particular quality in the progeny. The answer can only be that they have attained to that degree of perfection in England—that for half a century *thorough breeders*, have been successful in this particular as in others. It is gratifying to be able to state any one thing on this most important subject, entitled to rank as an axiom and of a truly scientific character.

We say that thorough breeders have been entirely successful in England. Not that the farmers, generally in England have reached that degree of excellence. This would be far from the truth. All that is true even there, is the invaluable fact that particular families of milch cows are there known to transmit their peculiarity, as great milkers, with uniform certainty, to their progeny. This fact is as valuable, for our instruction and example, as if the same thing were true of all the milch cows in England. On the other hand, let the following statement have its due weight, going to show, as it does, that it is of some consequence for breeding from what family an animal derives its descent. "Mr. Woodward of Birlingham, Worcestershire, England, purchased *twelve deep milking* Yorkshire cows without *pretensions to breed, or disposition to fatten*—with these cows he used a *high-bred* Hereford Bull—and in the progeny lost the disposition to milk which the mothers had; acquiring that *of laying on fat*, which was the distinguishing merit of the family to which the bull belonged. Here is a striking case, where *high-blood* enabled one of the parents to propagate his own peculiar excellence, and to prevent the transmission of the peculiar excellence, of the mothers—viz. their tendency to be great milkers; because this quality was accidental in them and not derived from a select ancestry, and therefore not firmly established in the constitution.

[*N. E. Farmer.*

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*Massachusetts Agricultural Repository.

HORTICULTURE.

(From Blackwood's Magazine for April.)

SIR HENRY STEUART'S THEORY OF TRANSPLANTATIONS.

(Concluded from page 110.)

With respect to close woods and plantations, the ground must be trenched or double-dug, soon after autumn, eighteen inches deep, in light or silicious soils, and twenty inches, at least, in clayey or aluminous. During the course of the trenching, if a manuring of compost can be spared, let it be dashed over the slope of the earth thrown up. When the proper season comes, say in April, the ground is well dunged for a potato crop, with ordinary manure, or, what is better still, with peat compost, made with farm-yard dung, according to the fermenting process, twice heated and turned. In default of compost dung, particularly if the subsoil be clay, soon after the potatoes are planted, as much fine slacked lime must be poured into the drills as is generally used for a wheat crop, about a hundred and fifty bushels per acre. By the succeeding season, (after a potato crop, value perhaps from £25, to £30,) the ground will be in good condition to be planted; after which it should be kept with the hoe for three years. The most favourable subsoils are close-lying strata, in which a considerable proportion of sand and fine gravel is intimately mixed. Secondly, free-stone; provided a bed of sand and impenetrable clay does not intervene between it and the soil. Thirdly, a kind of greenstone, (Scottice, rotten whin,) which is the most favourable of all, when there is over it a sufficient depth of mould.

"Such, for example, are the soil and sub-soil of that favorite tract of country, at the foot of the Ochill and other hills, in Stirlingshire and Perthshire, so well known for the growth of its timber. It descends in a gradual slope from the hills towards the river Forth, both east and west of the town of Stirling; while the river slowly winds through the rich, but alluvial plain below. In this sort of sub-soil, the excess of the water collected from the sky, and the heights above, passes through the fissure, and is received and retained in its subterraneous cavities; by which means the rock, being always damp, and never exsiccated, can communicate its moisture to the soil above, in seasons of drought.—It is true, this rock sends out frequent springs, from its internal reservoirs, to the surface: but they are often useful, instead of being pernicious; and they may generally be carried off, by drains of inconsiderable depth, cut across the out-cropping extremity of the rock."

The most unfavorable sub-soils are such as are composed of dense and argillaceous substances, through which no water can pass, it being retained stagnant at the bottom of the soil. Secondly, those open beds of loose stones and sand, from the bottom of which water is readily drawn off by subterraneous outlets. Thirdly, those extensive ranges, or strata, of dry rocks, of a hard texture, composed of slate, sometimes of granite, but most commonly of gneiss, accompanied, in some districts, with a considerable proportion of iron, probably in the state of orange oxide.

"Happy is the planter," exclaimed Sir Henry, with enthusiasm, "who has none of these dry rocks for his sub-soil; for it clearly appears, that no planting, nor removal of trees, is possible, of whatever size, where they are present. Still happier is he, who, with clay and sand intermingled beneath his surface, or even with these untoward substances separately composing his soils, can by industry and skill, prepare them for his purpose. But happiest, certainly, of all is the man who can boast the possession of that enviable greenstone or rotton whin, with the deep, friable, and dark-coloured mould of the Ochills superincumbent on it; for then he may plant or remove whatever trees he pleases, and without preparation either chemical or mechanical."

The best subjects having now been selected and the soil prepared, the trees must meanwhile also have been preparing for removal, and this is the subject of Sir Henry's seventh section. Instead of digging among and disturbing the roots, for the introduction of manure,—when the branches and roots of a tree about to be transplanted may be deemed not perfect—let about a cart-load and a half of peat compost be taken, carefully prepared, or coal ashes of a like quantity, for a tree five-and-twenty feet high, to which let four or five cart-loads of very tolerable soil be added, of an opposite quality, if possible, to that of the ground, and let the whole be laid down round the tree, some feet from it—let the earth and the compost be thrown and scattered over the whole—the heap half trenched---and then spread in a sloping direction outwards, to the full extent of the roots of the tree. Into this loose and friable mould the genial rains of spring will readily enter---the fibrous roots will during the first year strike upwards, and pervade nearly the whole mass---by which means both roots and branches will be improved, and the tree in a proper condition for taking up, after the third season.

"On the other hand, should the branches be tolerable, at least for a spiral tree, and the roots be defective, in consequence of tenacity of soil, or mechanical injury done by other trees, let the following improved method of cutting round be followed.

"In the first place, supposing the plant to be five and twenty feet high, as before, let a trench, thirty inches wide, be opened round it, at the distance of three feet and a half, if you mean to let it stand for four years, or more, after the operation, and at the distance of six feet, if you mean to let it stand only for two years. For, let it be remembered, that no tree can, with propriety, be taken up, on a single year's growth, after cutting round; because, in that case, the fresh shoots of the fibres, being nearly as tender as the roots of an onion or a cabbage, can neither be extricated nor handled, without sensible injury.

Supposing the first case, and that the tree be to stand for four or more years, the operation is simple. Let the trench be cut, fully to the depth of the subsoil, rather excavating the bank, in order to get somewhat underneath the roots; or, in the case of tap-rooted plants (as the oak and the elm) going down nearly a foot deeper still, and opening a drain or outlet on the lower side, to prevent a stagnation of water, if the sub-soil be tenacious. After this, the earth may be returned, well broken down, into the trench; taking care to put in the surface-mould first, in order to afford the best pabulum or nourishment to the young fibres, which may be expected at once to strike in it. Previously to the last-mentioned operation, it would certainly be an improvement, if a little compost could be spared, to mix through the mass: but that is an improvement, which I have seldom had time to practice.

"Supposing the second case, and that the tree be to stand only for two years, the same method may be followed, but with this difference, that, on the south and south-west sides, two, or perhaps three of the strongest roots should be left uncut, and allowed to pass entire through the trench; so that when taken up at their full length, they can act as stays against the wind, which may assail it from those quarters."

Sir Henry is of opinion, that a good deal of exaggeration has prevailed among late writers, respecting the importance to trees of the tap-root. In infancy, the tap-root is indispensable to their vigorous growth. But in trees of mature age, when cut down, the tap-root is no more distinguishable from the other roots. A very remarkable analogy seems to subsist between the leading shoot of the tops of trees and their tap-root under ground. If either be cut off, or shortened, the plastic power of the tree soon renews it. In various instances, when he has had occasion to remove a tree for the second time, Sir Henry has observed the power of renovation most conspicuous on the fresh set of tap-roots which had been generated. In like manner, in heading down a special tree, in order to give it the spreading character, numerous growths are sent out, instead of the leading shoot, which had been displaced by the pruning knife; and when it came to be shortened a second time, there appeared, of course, a still greater multiplicity. Thus, then, the leading shoots and the tap-roots of trees are not only analogous to, but probably also coexistent with, each other.

Sir Henry then speaks at great length of the preparation of trees in large masses, and on the formation of nurseries of large trees, out of which to transplant: but we must refer our readers to the book itself-- of which, within the limits even of a very long article, it is not possible to give more than a very imperfect analysis.

Section eight is on the taking up and transportation of trees. In general, people make little account of roots, provided that a large mass or ball of earth adhere to them.---Now, roots and branches, as we have seen, must in all cases be relative and correlative, and therefore the standard of judging is not the length of the plant, but the actual length of the side branches. Roots spread themselves in the ground, in a way nearly analogous to that in which branches spread themselves in the air, but with a far greater multiplicity of ramification. The tree-picker, an instrument of very simple construction, resembling the pick used by miners, but with only one point, or prong, (it is given in a plate,) is now in very general use in Scotland, for taking up the many minute and diminitive shoots on the preservative system.

"From what has been said in the foregoing section, respecting the preparation of trees, it is apparent, that those which have been cut round, are more easily taken up, than those that have never been so prepared. The trench made during this operation, serves as a sure guide to show the point, to which the fibrous elongation has extended; whereas, in subjects which have undergone no such preparation, the roots must be judged of from other, and sometimes more uncertain circumstances. Every experienced workman is aware, in examining a tree that has never been prepared, for the purpose of taking it up, that, in any tolerable rooting-ground, he will find the points of the roots, if not mechanically prevented, running out to the full extent of the branches, which hang over them, and sometimes still farther out. Hence he should begin cautiously to try with the spade and picker, in order to discover the extreme points of the rootlets. Whether the roots he may lay bare belong to the plant, or to some other tree of the same species, he will at a glance perceive, from what the workmen call the "feathering," that is the position of the capillary rootlets, upon the primary rootlets or branches, which are always found pointing outwards from the body of the tree.

"Having ascertained where the extremities lie, the next step to be taken is, to open a trench two, or two and-a-half feet wide, and cut down to the subsoil, or deeper, should the roots have penetrated so far. The bank is then to be undermined, in which the roots seem to lie, to the extent of eight or ten inches, in order to facilitate the operation of the picker. Two workmen are next to extricate or scratch up the roots, while one more is sufficient to throw out the mould, which, in consequence, falls down into the trench; and thus the workmen are distributed, three and three together, according to the number employed, over the whole extent of the excavation. As every effort must be made to preserve the minutest fibres and capillary rootlets entire, the difference between an experienced and inexperienced workman is very striking, in an operation of so much nicety; and the surprising dexterity, which some men of ingenuity and attention acquire in this department, is as valuable to the employer, as it is beautiful and interesting to the spectator who examines it. The main thing, which the pickman has here to study, is, never to strike *across* the roots, but as much as possible in the line of their elongation, always standing himself, while at work, in the right line of divergence from the tree as a centre; that is, in such a line, or lines, as the rays of the sun are represented to describe, in emanating from that luminous body. In striking the picker into the ground, which must sometimes be done pretty deeply, there is a certain dexterous shake, more easily understood than described, which a superior workman knows how to give with the implement; and that, when properly applied, will more efficaciously and speedily discover and disengage the various bearings and ramifications of the root, than any other method.

"By thus continuing to extricate the roots, and to shovel away the mould that falls into the trench, at one and the same time, an immense body, amounting to thousands, and sometimes to millions of roots, great and small, will ere long be disengaged, and which must be carefully laid aside or bundled up, so as to make room for the workmen, and also to avoid the strokes of their implements, as well as injury from their feet. In like manner, the stiffer roots must be cautiously put aside and disposed of, and any that are broken or lacerated, cut off. Ere long, the pickmen from all sides nearly meet in the centre, by approaching to within three, four, or five feet of the stem, in proportion to its size; and at this point the process of extrication ceases, as it would be imprudent to advance too near the collar of the tree.---A ball of earth round the stem, as large as can be got, according to the nature of the soil, with two or three feet broad of the original sward adhering to it, should now, if possible, be left undisturbed at that place."

The workmen having thus completed the task of extrication within three or four feet of the stem, measures are now to be taken for pulling down the tree. It is effected thus:---

"With the view, then, of effecting the two purposes in question, namely, the pulling down of the tree, and getting it out of the pit, a strong but soft rope, of perhaps four inches in girth, is fixed as near to the top of the tree, as a man can safely climb, so as to furnish the longest possible lever to bear upon the roots; taking care at the same time, to interpose two or three folds of mat, in order to prevent the chafing of the bark. Seven or eight workmen (the greatest number I usually employ in the department in question) are then set to draw the tree down on one side. Or, it is a good way, if you have an old and steady pulling horse, to employ him in this business: for it is plain that one stout horse, acting forcibly on the rope, will do more than twenty men, even if so great a number could get about it; and moreover, he will save some manual labor in excavating, by giving an effectual pull at a much earlier period of the work. The tree being drawn down, it is next forcibly held in that position, until earth be raised, to the height of a foot or more, on the opposite side of the pit, so that, as soon as it is liberated, it springs up and stops against the bank thus formed. On this, the workmen proceed to lighten the mass of earth with the picker, laying bare the roots as little as possible, but still necessarily reducing the mass to manageable dimensions. The tree is then pulled down on the opposite side, and a foot of earth forced up, in a similar manner; and the same thing being repeated once or twice, it is gradually raised to even a higher level, than that of the adjoining surface. In this manner, by a method extremely simple, and not less expeditious, (however it may appear in the narrative,) it becomes quite an easy, instead of a formidable undertaking, to draw the tree from the pit."

Sir Henry then describes the process of putting the tree on the machine---which machine is itself clearly described---and the wheeling off to the pit preparing for it --triumphantly but slowly and steadily; and here we have a very spirited engraving of a tree on its transit, drawn by two stout nags, and steadied by men, some of them balancing it by ropes as they walk along with it, and others seated upon the trunk and among the branches.

It would require another article, and a long one too, to give any thing like an intelligible abridgement of the very minute details of the method of planting the trees in their new situations; and to explain the proper treatment of the trees subsequently to removal. Perhaps we may have such an article in a future number; meanwhile, let us attend to the expense attending the operations, by which it is possible to gain a start of some forty years or upwards upon time, in the article of woods. The expense is moderate, beyond the easy credence of the uninitiated. If the soil be of tolerable quality, which it is fair to suppose, then two, or at most three single horse cart-loads of compost, will suffice for a pit for a single tree. The pit is to be dug to the depth of eighteen inches or two feet. In that case the work may be done at the rate of from 8d. to 10d. per pit; and the compost (supposing it to be made with animal manure) may be prepared for 9d. per cart-load. In cases of great haste, the expense of preparation of a pit may be 1s 3d. In trenching the entire ground for groups and larger masses of park-wood, the trenching, or double-digging, may be executed at the rate of 9d. or 10d. per Scotch fall, which is about one-fifth part larger than the English rod, or £8 per acre. In stony or difficult ground, where the pickaxe must be used, add at discretion to the expense of trenching.

"If a tree, removed to the open park, be from fifteen to eighteen feet high, and from eighteen inches to two feet in girth, or in other words, from six to eight inches in diameter, which, as has been already said, is the smallest tree that has strength to resist the elements; and that the distance it is brought be about half a mile, which may be called a medium distance, the expense, in general, is not found to exceed 6s. 6d. If it be from five-and-twenty to thirty feet high, and from three feet to three feet six in girth, the expense is not found to be more than 12s. 6. This is as accurate an estimate as can be made of the present expense of transferring park-wood at this place, with expert workmen; which must necessarily vary, as the size increases, or as the rate itself is varied by circumstances, or controlled by unavoidable and unforeseen accidents. But I have scarcely ever known an instance in which plants of the largest size in question cost from 15s. to 18s. Estimates of the particulars for both sizes may be given as follows:---

For a tree from fifteen to eighteen feet high, with lime-compost.

Preparation of the pit, as above, -	£. 0	0	8
Three cart-loads of compost, at 6d, -	0	1	6
Three workmen taking up, half a day, at 1s. 6.	0	2	3
Transporting and planting, say -	0	2	1
	£0	6	6

For a tree from five-and-twenty to thirty feet high, with dung-compost.

Preparation of the pit, - -	£0	0	8
Three cart-loads of compost, at 9d. -	0	2	3
Three workmen taking up, a day, at 1s. 6d.	0	4	6
Transporting and planting say, -	0	5	1
	£0	12	6

Sir Henry, in 1819, completely clothed with a close plantation two acres of ground in the space of three months, from February to May, for about £60! There is a bold promontory, or headland of the lake, in his park, wooded in 1817 by an open disposition of trees, twenty-two in number, and consisting mostly of sycamores, with a few oaks and elms interspersed. The dimensions of the trees were from five-and-twenty to eight-and-twenty feet high; and as the situation was one of very open exposure to the west, care was taken to select such subjects as possessed, in the fullest manner, all the protecting properties. The plantation was executed in nine days by nine workmen, and a horse to draw the machine, the distance being about a quarter of a mile. The expense, which amounted to about 10s. a tree, is as under:

Nine workmen, 8 days, at 1s. 8d. per day,	£6	0	0
One horse and driver, 15 days, at 5s. -	3	15	0
Dung-compost, 44 cart-loads, at 9d. -	1	13	0
In all, - -	£11	8	0

Sir Henry is entitled to speak with animated pleasure about this achievement.

"Now, we shall suppose, that the art of giving immediate effect to wood has been altogether unknown to me, and that I had wished to procure two and twenty fine trees, for so prominent a station, by the ordinary system of planting; the first thing I should have had to do, according to the most speedy method, would have been to enclose, trench, and manure the ground for a green crop, and then to plant it with nursery plants of four years' growth. The next thing was, to keep it with the hoe for two years, until the plants shut freely, which they probably would do within that period; and, after about thirty years in this climate, the whole would have been of the size wanted. Had no means been taken to cultivate and prepare the ground, forty years at the least, would have been requisite.

"According to the former supposition as to time, and that the trenching and manuring for a green crop were properly executed, the crop would, in common cases, pay the cost of both of these operations; and, the ground being rather more than a quarter of an acre, and ready for planting, without preparatory expenditure, the outlay would be the following:

Enclosing one-fourth of an acre of ground with double railing, and stakes 4½ feet high, for sheep and lambs, 92 yards at 6d per yard, - - -	£2	6	0
Planting the ground with various trees, including the expense of the plants, -	1	10	0
Keeping with the hoe, for two years, -	0	16	8
Renewing the railing four times, -	9	4	0
Rent of one-fourth of an acre of ground for 30 years, at 15s. yearly, -	22	10	0
Accumulated interest on the above sums for 30 years, say only - -	115	10	0
Total expense of the ordinary method,	£151	16	8

"N. B. Some labor and expense being obviously necessary, to grub out the superfluous trees, and reduce them to the number wanted; also, to level and dress the ground, and restore it again to proper pasture, the value of the thinnings of the wood may be allowed to cover those items.

"Thus, then, it appears, that, by the ordinary method, you may have a group or plantation, consisting of two-and-twenty trees, for £151 16s. 8d.; and, by means of the transplanting machine, for £11 8s. or nearly the *thirteenth* part of the money!!! I conceive, that it would not be easy to give a more complete answer, than this comparative statement, to those persons, who object to transplanting on the score of *expense;* exclusively altogether of the difference of obtaining the effect of wood, in the one case, *at once,* and of waiting *thirty years* to obtain it, in the other."

It appears, then, that on the preservative system, wood of all kinds may be transferred, at a very moderate expense indeed—that trees of thirty-five feet high may be managed by expert and experienced workmen, for, from 10s. to 13s. each, at half a mile's distance, and those from eighteen to five-and-twenty for from 6s to 8s. As to wood for close plantations, or for bush-planting in the park, the trees may be transferred for about 3s 6d, and the stools of the underwood for from 1s to 2s per stool; whereas, according to any other system with which Sir Henry has become acquainted, from £2 to £5 is considered as no unusual or exorbitant sum to lay out for the removal of a tree of any size; and even £10 or £15 have been often paid, and without ultimate success.

We have, imperfect as our review is, given our readers the means of judging of the value of this very interesting and original work. By studying its principles and details, any gentleman, anxious to create sylvan scenery suddenly, may do so at the thirteenth part of the expense necessarily accompanying any other method; and when the certainty of the plan, when pursued with prudence, is compared with the uncertainty of any other, the difference is as between life and death. We have seen, in different parts of England, parks wooded by transplantation, but they never seemed healthy and luxuriant to our eyes—every third tree was a valetudinarian—every sixth stood upon crutches, and every tenth was as dead as Julius Cæsar. It requires strong nerves to inhabit a house surrounded by such sufferings; and it is troublesome to the people about the premises, to be perpetually picking up the trees after a storm. Such exhibitions bring discredit on the art, and throw ridicule on the very name of tree. But we do not hesitate to say, that a tree is often very much the better of being transplanted by Sir Henry Steuart.

We defy you to show a single pale face in all his park. When once they have fairly taken possession of their new site, and have felt their way for a couple of seasons, what shoots! then their bark is like the skin of a man in training. We believe we are correct when we say, that Sir Henry has repeatedly removed the same tree without the least detriment. The operation of removal is indeed so gentle, that the tree, which is in one sense asleep, not having awoke to spring, knows no more about it, than you yourself, gentle reader, would know about it, were you to be lifted up out of one bed, at midnight, and laid in another, with softer and deeper feathers, and an additional pair of the finest and lightest blankets. The old prejudice about the impossibility of unrooting a great tree, must, however venerable and poetical, give way; nothing is so easy, and it costs but a mere trifle. Formerly you kept pulley-hawling him by a hundred ropes and cranes, and laid the axe to his roots without mercy, and no wonder he groaned, shrieked out, and died. Now you handle him as gently as a flower-stalk, and remember that he is a tree belonging to a christian community. You do not call upon him to perform impossibilities—to keep alive and grow after you have mutilated all his members—to produce leaves without twigs—and to make timber without branches; but you merely expect him to look cheerful and contented, to eat the pabulum you have gathered around him, within easy reach of his mouth—and to make wood when the sun shines.—He never dreams of refusing to comply with a request so kind and reasonable, and accordingly adds several cubits to his stature every year; and in the leafy month of June is so umbrageous that you cannot see the crow's nest—you only hear it cawing.

HORTICULTURAL SOCIETY.

The exhibition of the Horticultural Society at the Rensselaer House, yesterday, was highly gratifying. Their tables presented an unexpected number and variety of early productions, useful and ornamental.—Among the former was a measure of potatoes, of the growth of this season, some of which were as large as a hen's egg. The only forcing by which they were brought forward so early, was an extra quantity of warm manure. There were others, planted in the usual way, and without any attempt at forcing, which had attained the size of large potato balls. Green peas were there in abundance from several gardens. Cucumbers of great size were there, and a most inviting bowl of delicious ripe strawberries from Van Schaick's island.

The flower department was brilliant and beautiful. A splendid Egyptian lily occupied the centre of the table, and by its side a most superb cluster of grass pinks. The flowers, amounting to several hundreds, were ranged in a circle, the diameter of which we judged to be nearly two feet. A single root produced this brilliant progeny.

Around the table were ranged several varieties of Geranium, two species of Cactus, Hydrangeas, a beautiful orange myrtle, and a great variety of other ornamental plants. The exhibition was on the whole a gratifying indication of the zeal and spirit which animates the members of the society, and the valuable results that may be expected from its continued operations.—*Troy Sentinel.*

On a Mode of Covering the Naked Branches of Fruit Trees with New Wood.

Extracted from a letter to the President of the London Horticultural Society, by Samuel Spyvee Street, Esq. of Penryn, Cornwall.

It is a fact well known to horticulturists that the branches of fruit trees trained against the walls, and espaliers, after eight or ten years become naked for about a foot or two nearest the stem, which gives an unsightly appearance to the tree, especially when the branches are trained horizontally; and it is generally difficult to procure blossom spurs, or even wood shoots, in those situations, unless by training a new shoot from the main stem, which cannot be always procured. The idea struck me, that if I interrupted the sap at a distance from the main stem by ringing the branches, shoots might be produced between the ring and the stems and the result has proved that my idea was correct. This spring, when the blossom buds were about to burst, I made a ring to the extent of one-fifth of an inch, in the usual way, at the distance of two feet from the main stem, round a branch of a Jargonelle pear tree, trained horizontally, which branch had for several years been entirely bare both of fruit spurs and wood shoots; nor was there the smallest appearance of an embryo bud at the time of ringing. I soon found that a space to the extent of seven inches nearest the ring began to break into buds; at this time (July) there are six fine buds broken and two embryo buds are visible, which I have no doubt will break next spring. The part of the branch nearest the stem, about seventeen inches, is still without a bud; I therefore conclude, that six or eight inches should be substituted in future ringings instead of two feet. Another experiment has confirmed this opinion. About the time I made that on the Jargonelle, I also ringed a branch of a Bergamot pear tree at six inches from the stem, which has at this time six buds broken and four embryos very prominent.

RURAL ECONOMY.

BEE MOTH.

[The N. E. Farmer has the following article, in answer to the quere of a correspondent, "What is the best means to guard against the Bee Moth?"]

In Dr. Thacher's *Treatise on Bees* is a valuable dissertation on the bee moth. This suggests sundry remedies against the insect complained of and proposes 'a plan for an *Improved Bee house*,' intended to guard against it. We shall not reprint this article, because the copy-right of the work is secured to its publishers, and its republication by us would trespass on their property.

Mr. John Stone, of Sudbury, Middlesex county, Mass. in an application for a premium, to Mass. Agr. Society, states in substance that he had kept bees for ten years last past; that for several years his bees were much injured by the bee moth—that he lost two hives of bees which were wholly destroyed by the insects. 'In the spring of 1824 or 1825, about the first of April, I raised my hive about 5-8 of an inch by putting a small block of that thickness under each corner of the hive; immediately the bees commenced the work of destruction upon the moth-worm and entirely cleared the hive of them. I have followed the practice ever since and have never received any injury from the bee moth, the worm having been invariably destroyed by the bees and brought out of the hives. The hives have remained in this situation till the month of October, when I have taken away the blocks and let them down.'

'The late Dr. Low, of Albany, recommended the suspension of hives a few inches above the floor boards by cords, and to have the floor-board moveable up and down, according to the weather. Mr. David Chandler, of South Hadley, Mass. recommends (N. E. Farmer vol. vi. p. 321, 322) placing the hives on the bare smooth ground about the first of May, or perhaps earlier, at some distance from the bee-house, and placing back, late in the fall of the year, the hives which are to be kept over winter. The objections to these remedies are, that they expose the bees to be annoyed by rain, dust, wind, toads, and other reptiles, robbers from other hives, &c.

Dr. Smith, in his *Essay on Bees*, (another cheap and useful little work, printed by Perkins and Marvin, Boston,) in treating of the bee moth, says: 'A very simple plan, and sometimes it is eminently successful, consists in placing a burning lamp in a pail near the apiary. I have been quite successful in taking prisoners by this device, in the early part of the evening. A keg, because it is smaller at the top, by reason of the incurvation of the staves, having, in the mean time but one head, is the best trap. Some fresh honey or if not readily obtained even molasses, spread over the bottom is the bait. All insects are particularly charmed by a bright light; and none more than the bee moth. As soon as they discover the light they fly towards it. Another sense, which is probably strongly developed, smell, is gratified by the odor of the food; and hence they have a double inducement to enter into the trap, where the blaze of the lamp or their thin spread wings gives them the finishing blow and tumbles them into the bottom. With a little management thousands may be caught with very little time.

'Another method, which I have practised successfully, is this, viz: set a long neck bottle having a little honey on the bottom under the floor of the bee-house, and another perhaps on the roof. When once inside it is extremely difficult for them to make their escape. Drawing a piece of gauze, or making a wire door on hinges over the aperture to the hive, which is closed over night is another very good scheme. But this must be opened very early in the morning, as the bees begin to forage by the earliest dawn. The gate most effectually keeps the moth from getting within, though the bees, thus confined, exhibit much restlessness, and impatience during the time they are imprisoned within their own castle.

Dr. Thacher proposes to save hives from the insect by placing them within an '*Improved Bee house*;' according to a plan of which the details are given page 108, of his *Treatise.* He observes, 'I have now a bee-house of the above description which meets my sanguine expectations.'

Some writers have suggested that in fixing bottles and other vessels as traps, baited with honey to catch moths, there is a danger of catching and destroying the bees themselves as well as their enemies. We hope that some of our correspondents who have a practical, as well as theoretical acquaintance with this subject will tell us how to destroy the bee moth, or at least point out the best way of guarding against its ravages.

APPLES WELL PRESERVED.

Mr. J. Perry, of Sherburne, Mass. has presented us with a sample of apples, preserved in pulverized plaster of Paris, which were sold in Boston market for $6 a barrel. The apples are of the kind called Nonsuch and were as fair to the sight, and pleasant to the taste as if they had just been taken from the tree.

SOAP.

As this is the season of the year when most of our housekeepers attend to making soft soap for the use of the family, we trust a few observations may be acceptable.

Much difficulty is frequently experienced in this business, and many *vulgar errors* have been connected with it; and we have heard women declare that they believed their soap was *bewitched.* When the principles are once understood, the whole process is easy and simple. First, then, it is proper that housekeepers should know the properties of the component parts of soap.

There are two fixed alkalies used in soap making, viz. potash and soda. Potash is called the vegetable, and soda the mineral alkali. Either of these alkalies will unite with grease and form soaps: potash and grease make soft soap only, but soda and grease make hard soap. Both these alkalies have a strong affinity for acids—uniting with them and forming what is generally called neutral salts. Thus potash and nitric acid form saltpetre; soda and sulphuric acid form glauber salts, and soda and muriatic acid, or spirits of salts, form common salt.

Now, no woman in her senses, would think of making soap with either of these salts; and yet the base of either, when separated from the acid, would form when mixed with grease, as good soap as if they had never been united.

There is also another acid which combines with these alkalies, which will equally prevent their uniting with grease, as either of the before mentioned acids—that is carbonic. Now this acid is continually floating in the atmosphere unseen, and will combine with potash or soda whenever it comes in contact, forming a carbonate of soda or potash—neither of which will unite with grease to form soap.

Much of the difficulty which housekeepers meet with in soap-making, arises from their ley having become more or less saturated with carbonic acid. Ashes which have laid long in a damp place, or become damp by any other means, will absorb carbonic acid, or if the ley is allowed to stand too long after it is leached in an open vessel, the same thing will take place. Lime is often placed in the bottom of the leach, and but few can tell why they do it. If the question is asked, the reply is—because it makes the ley cleaner. Lime has a stronger affinity for carbonic acid than potash has, and of course will separate it from it. Common limestone is lime and carbonic acid: when limestone is burned in a kiln, the carbonic acid is separated by heat, and quicklime is formed. Now if this quick or fresh burnt lime is placed in the bottom of the leach and the ley made to pass through it, it becomes purified from the acid, and the only thing necessary then to have it unite with grease, is to have it of sufficient strength.—This may be ascertained by its specific gravity—to learn which, put a new-laid egg into it: if the egg floats, the ley is strong enough: if it sinks, the ley must either be evaporated by boiling, or by again leaching it through ashes. The grease made use of is the refuse fat of animals, and before it is united with the ley, should be freed from all the salt by boiling it in water. The quantity necessary for a barrel of good soap, is about sixteen pounds, or half a pound to a gallon.

Soap, when well made, should be thick and salve-like, capable of being spread thin upon cloth without flaking or rolling off.—If to such soap, about an equal quantity of soft water is added, the soap becomes hard and liver-like, capable of being taken up in the hand. This, many think is desirable,—especially the soap-boilers who make it for sale, as they make double the profit they would on the other quality.

Some housekeepers practise making their own hard soap. This is done by adding salt to the soap after it is well made, while it is yet boiling. The effect is thus explained. Salt is soda and muriatic acid. Potash has a stronger affinity for muriatic acid than soda has, and when they come in contact, as in this case, the potash decomposes the salt and combines with the muriatic acid, forming a muriate of potash—leaving the soda pure to form a hard soap with the grease:—the muriate of potash will be found on cooling, in solution at the bottom, being of greater specific gravity than the soap. The salt should be added by small quantities until the separation takes place, which may be known by the soap becoming curdled; after which, it should be allowed to stand until cold, when it may be cut into bars or cakes, as suits the operator. Many suppose that resin is necessary to harden the soap. This is not the case; it is used as a matter of profit—not of necessity.

The common yellow color of soft soap, is owing to the iron contained in it, as the oxide of iron is dissolved by potash. Where white soap is desirable, it may be made by substituting pearlash or carbonate of potash, and abstracting the carbonic acid by lime—and by using lard or other white grease, the purest white soap may be made.—*Genesee Farmer.*

(From the Southern Agriculturist.)

CURE FOR THE STAGGERS.

May 13th, 1831.

Sir,—I have thought that the enclosed paper on the treatment of a disease in dogs, hitherto incurable, might prove acceptable to some of your readers. Should you concur with me in opinion, you may make it public.

I am of opinion, that a faithful dog is one of the valuable servants owed by a planter; and that he owes many of his comforts to the skill, vigilance and fidelity of this animal. This faithful creature not only affords profit and amusement to his owner, by running the valuable as well as noxious animals in the vicinity off his farm, but guards by his vigilance from the midnight prowler, all the property which has been accumulated by the industry of his master. How imperative then does it become the duty of the farmer to cherish him; and when attacked by disease, to use his best exertions to preserve his life?

I have been led to these reflections by a fatal disease to which this animal is liable; and which has occasioned me to lose many a valuable one before I discovered the remedy. The disease I allude to is the Staggers, and the remedy, the spirits of turpentine. With this medicine, I have lately succeeded a second time, in the course of a year, in curing a very valuable dog; and I have been informed that similar success has followed the use of it in the hands of one of my neighbours.

The disease appears to arise from weakness in the loins; and is most probably occasioned by worms. He has but little use of his hind legs—staggers about much—when down rises only on his fore legs, and finally loses all power to rise: at the same time, he has all his intelligence, and eats and drinks for a while as usual. I give a table spoonful of the turpentine, in as much or more molasses or brown sugar, three times a day, and seldom find it necessary to continue longer than the second day before the dog is restored to health.

T.

MISCELLANEOUS.

Farmers Make the Best Public Men.

In a very clever little book for young people, called Louisa and her Cousins, we find the following remark: 'Good farmers have always been held in high estimation. I came across an anecdote the other day, which proves that this was the case in very ancient times; it is related by Herodotus, who is called the Father of History. The inhabitants of the island of Miletus, in the Ionian Sea, having been for a long time afflicted with internal dissentions, at length solicited the interposition of the Parians, inhabitants of an adjoining island. When those, whom the Parians selected to perform the office of arbitrators, arrived at Miletus, finding the whole state involved in extreme confusion, they requested permission to examine the condition of the lands. Whenever, in their progress through the island, they found any lands under good cultivation, which, by the bye, did not happen in many instances, they wrote down the name of the owner. On their return to Miletus, they called an assembly of the people, and placed the direction of affairs in the hands of those, whose names they found on their list of good cultivators; because, as they said, those who took the best care of their own business, could be most safely intrusted with the public interest. These officers were appointed, and tranquility restored.'

This anecdote struck us particularly, because it exactly coincided with our ideas of the true principles on which the privileges of citizenship should rest. In framing our own government, and under the new order of things in France, it was an important question what should give a man a right to vote. A certain, though small income, was decided on by our legislators, as the necessary qualification; and this test has much of reason and justice in it, because a comfortable income is the visible *representative* of industry and good character—for it is certainly true in this happy country, that all who have health, can obtain a decent maintenance, except the lazy and the dissipated.

So far therefore as this principle merely extends to excluding vagabonds, it is a good one; still it does not touch all cases; for wealth may be inherited by the lazy and the dissipated, and thus the privilege denied to the vicious beggar, may be bestowed upon the equally vicious rich man.

It appears to us that the proper qualification for voting is to have some regular and constant employment—to perform a decided use as a citizen, in the way of some permanent trade, business or profession.

This shuts out both extremes—those who are idle because they are rich, and those who are poor because they are idle.—*Mass. Journal and Tribune.*

THE FARMER.

BALTIMORE, FRIDAY, JUNE 24, 1831.

PRIZE ESSAYS.—The decision of the committee on the merits of the Essays offered for the premiums we proposed in March last, has been delayed by the absence of one of the gentlemen who had consented to act, and whose opinion we were very desirous to obtain. We have great hopes of obtaining the decision for publication in the next number of the Farmer. In the mean time,—notwithstanding the Essays received are few in number,—the success of the experiment has been such as to warrant a repetition of the proposition. We therefore propose the same premiums under the same regulations and on the same terms, for Essays on the various subjects of Agriculture, Horticulture and rural Economy, which may be sent us on or before the first day of October next. We beg leave, however, to add the following to the terms of the proposition before made:—That all unsuccessful Essays, which may be sent in accordance with this proposition, shall be published in the Farmer, or not, at the discretion of the Editor. But it shall be left to the option of the authors, whether they shall appear as unsuccessful candidates for the premiums; and writers of Essays are requested to state in a private note, whether, if unsuccessful, they wish their Essays published as unsuccessful candidates for premiums, or as ordinary communications. For the terms of the proposition now renewed, reference is made to No. 1, volume 13, of the American Farmer.

Editors of papers friendly to the improvement of American husbandry, are particularly requested to give the above an insertion in their Journals.

Silkworms.—The Philadelphia United States Gazette has the following account of an experiment with silkworms. The fact, that silkworm eggs, and the eggs of all other insects of this class, are not injured by the cold weather of winter, is by no means a new discovery. From an article in the American Farmer of June 27, 1828, written by the present Editor, the following sentence is copied:

"I exposed silkworm eggs to very cold weather, even to a temperature in which ice a quarter of an inch thick was formed in the room in one night, and they were not injured."

In the winter of 1829 some eggs were exposed on the sill of the window on the north side of the house, during a severe snow storm, and buried in ice and snow for a week; and in the spring they were hatched, and made as fine silk as any others.

In the spring of 1829 a friend of ours was desirous of keeping a large quantity of eggs from hatching till the middle of June, that he might rear a second crop. They were put into a large basket and placed in the largest and deepest icehouse in Baltimore, immediately upon the large mass of ice; but the low temperature had no effect—they hatched at the usual time and were taken from the ice alive and sprightly.

Upon reflection, any one will be convinced, that the eggs of all insects which continue the species from year to year, are capable of withstanding the ordinary heat of summer and cold of winter;—otherwise the insect must have become extinct the first winter of its creation.

As to the experiment of allowing silkworms to feed on the mulberry trees in the open air, it will of course succeed, for that is their natural habit; and in some parts of China, silk is obtained by this mode even at the present day. But to adopt this mode would be to throw away the improvements of ages in this business. Until the insects were taken into proper houses, properly fed, and assisted in the formation of cocoons by a supply of materials whereon to spin, the use of silk was confined by its great cost to very narrow limits—silk and diamonds were of nearly equal rarity; and it is only by the present improved mode that it can be produced extensively. If Little Bucharia be indeed the country of the Ceres, the native climate of the silkworm is much more cold in winter than that of the middle states of the union, it being between the 36th and 44th degree of north latitude, and very mountainous and elevated.

(From the United States Gazette.)

SILK.

We visited yesterday the silk establishment of Mr. **Duponceau** and Mr. **Garache**, in Chestnut street near Second, and were astonished at the vast number of worms which were feeding and spinning. One circumstance was mentioned to us, that is worthy notice. Last summer, a number of cocoons were laid away in the supposition that the worm was killed; but in a short time, the animal in its winged state worked its way through them, and as they were near the north window, they took their station in the sill of the window, and on the outside; here they laid their eggs. No further notice was taken of them until this spring, when, to the astonishment of the people about the building; these eggs that had been exposed to all the severity of the winter, hatched, and Mr. Duponceau in order to carry out the experiment caused a number of worms to be put on the mulberry trees, in the yard of Mr. Desauque, in Second street, there they fed upon the leaves, grew rapidly; and yesterday several were spinning on the branches. It is the intention of Mr. D. to let the eggs take their chance for another year in the open air. The success that has thus far attended Mr. Duponceau's experiments is gratifying to him as it will be beneficial to the country.

SEED CORN.

We some time since copied into the Gazette, an article recommending the soaking of corn in copperas water, in order to prevent its destruction by birds, &c. We were informed by one of our patrons a few days since, that he was induced to try the experiment, but without the slightest beneficial result. His domestic fowls ate the corn freely, after it had been soaked, and the birds pulled it up after it had been planted.—*Zanesville, Ohio, Gazette.*

Prices Current in New York, June 18.

Beeswax, yellow 22 a 23. *Cotton*, New Orleans .10 a .12; Upland, .8 a .10½; Alabama, .8 a 12. *Cotton Bagging*, Hemp, yd. 18 a 20; Flax 12½ a 16; *Flax*, American, 7 a 8.——*Flaxseed*, 7 bush. clean .—— a .—— *Flour*, N. York, bbl. 4.75 a 4.87; Canal, 5.12 a 5.50; Balt. Hwd.st. 5.00 a 5.25; Rh'd. city mills —— a —— country, 4.62 a ——; Alexand'a, 4.62 a 4.87; Fredericksburg 4.50 a ——; Petersburgh 4.50 a 4.62; Rye Flour, 3.50 a 3 75; Indian Meal, per bbl. 3.87½ a ——; per hhd. 17.50 a 17.75; *Grain*, Wheat, North, 1.01 a 1.03; Vir. 1.00 a ——; Rye, North, 68 a 70; Corn, Yel. Nor. 66 a 68; Barley — a —; Oats, South and North, .33 a .36; Peas, white, dry, 7 bu. 5. Beans, 7 bu. 7.00 a 8.00. *Provisions*, Beef, mess 8.50 a 9.25; prime 5.75 a 6.25; cargo 4.62½ a 5 00; Lard, 9 a .10½; Pork, mess, bbl. 14 50 a 15.25; prime 10.50 a 11.50.

AGRICULTURAL BOOKS,

For sale at this Office.

A PRACTICAL TREATISE On Breeding, Rearing, and Fattening all kinds of Domestic Poultry, Pheasants, Pigeons, and Rabbits; also the Management of Swine, Milch Cows, and Bees, and Instructions for the Private Brewery. By Bonington Moubray, Esq. sixth edition, with considerable additions. London.—Price $2.

AN ESSAY on the Practicability of Cultivating the Honey Bee, in Maritime Towns and Cities, as a source of Domestic Economy and Profit. By Jerome V. C. Smith, M. D.—Price 50 cents.

J. S. EASTMAN,

No. 36, West Pratt Street,

OFFERS, at *Wholesale and Retail*, Hay and Manure FORKS, and Scythe SNEADS.—Also for sale, Grain CRADLES, and Cradle SCYTHES, Grass SCYTHE, English and American, with and without Sneads, Wheat FANS. Scythe STONES, &c. &c. Together with his usual assortment of PLOUGHS, and other AGRICULTURAL IMPLEMENTS, Garden Seeds, &c.

A fresh supply of FLOWER SEEDS, just received from the Messrs. Landreth's.

June 3.

WOOL WAREHOUSE.

LYMAN REED,

Commission Merchant, No. 195 *Baltimore street,*

Devotes particular attention to the sale of WOOL. Any consignments of the article forwarded to him for sale, can be disposed of immediately for CASH, at the highest market price.

CASH, and a fair price, will be paid for a few thousand pounds of *good wool*, (if offered immediately,) to supply orders now on hand.

Refer to Messrs. Cobb, Wyman & Co. Baltimore.

CASH FOR WOOL.

The subscriber is in this market as a purchaser of wool for eastern manufacturers, and will pay cash and fair market prices for every description of American wool. RICH'D MESSITER,

No. 5 Light street wharf, up stairs.

May 20. 2 m.

GARDEN SEEDS of every description, warranted genuine, constantly for sale by Gideon B. Smith, office of the American Farmer.

BALTIMORE PRICES CURRENT.

Baltimore Market—There is scarcely any change in the prices of produce. Holders of flour have relaxed in their demands, and sales of Howard street have been made at our quotations. Our rate for city mills is for extra quality. The wagon price of Howard street flour remains at $4 50. Wheat remains as at our last. Corn is rather scarce, but no improvement in price has taken place. Susquehanna rye would command a cent or two above our quotations, which are for Maryland rye. Beef has varied a little, but the average rates remain about the same as last week.

Tobacco.—Seconds, as in quality, 3.00 a 5.00; do. ground leaf, 5.00 a 9.00.—Crop, common, 3.50 a 4.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 10.00; yellow and red, 8.00 a 14.00; yellow, 14 00 a 16.00.—Fine yellow, 16.00 a 20.00.—Virginia, 4.00. a 5.00.—Rappahannock, 3.00 a 4.00——Kentucky. 3.50 a 8.00. The inspections of the week comprise 410 hhds. Md.; 27 hhds. Ohio; 4 hhds. Kentucky; and 1 hhd. Pennsylvania;—total 442 hhds.

Flour—best white wheat family, $6.25 *a* 6.75—super. Howard-st. 4.75 *a* 4.87½; city mills best, 5.00 Susq. 4.50 *a* ——; **Corn Meal**, bbl. 2.25; **Grain**, Md. red wheat, 90 *a* 1.00; white do. 1.05 *a* 1.15, Susq 1.05 *a* 1.10-**Corn**, white, 65 *a* 68-yellow 63 *a* 65-**Rye**, 65 *a* 67. **Oats**, .33 *a* 34. **Beans**, 75 *a* 80--**Peas**, 65 *a* 70—**Cloverseed** —— *a* ——**Timothy**, 2.00 *a* 2.50—**Orchard Grass** —— *a* ——Tall Meadow Oat Grass 2.75--Herd's, 50 *a* 75---Lucerne 30 *a* 37½ lb.——**Barley**, ——**Flaxseed** —— *a* ——**Cotton**, Va. 9 *a* 9½—Louisiana 10¾ *a* 11¼—Alab. 9½ *a*. 11—Tenn.. 9 *a*. 10——N. Car.. 9 *a*. 9½——Upland 8 *a* 9½--**Whiskey**, hhds 1st p. — *a* 35—; in bbls 36½ *a* 37½—**Wool**, *Washed*, Prime or Saxony Fleece 47 *a* 51; American Full Blood, 45 *a* 52; three quarters do. 53 *a* 58; half do. 65 *a* 75; quarter and common do. 14 *a* 15. *Unwashed*, Prime or Saxony Fleece, 36 *a* 40; American Full Blood, 34 *a* 40; three quarters do. 37 *a* 45; half do. 33 *a* 35; quarter and common, 30 *a* 33——**Hemp** Russia ton, $255 *a* —; Country, dew-rotted, 6½ *a* 7½c. lb. water-rotted, 7½ *a* 8c.-Feathers, 36 *a* 37-Plaster Paris, per ton, 3.75 *a* —, ground, 1.37½ *a* — bbl.—Iron, gray pig for foundries per ton 33.00 *a* ——; high pig for forges, per ton, 28.00 *a* 30.00; bar Sus. per ton, 72.50 a 80.00.—Prime Beef on the hoof, 6.25 *a* 7.25—Oak wood, 2.25 *a* 2.50--Hickory, 4.25 *a* 4.50—Pine 1.75 *a* 2.00.

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AGRICULTURE.

(From the British Farmer's Magazine.)

Prize Essays presented to the Manchester Agricultural Society, at the annual meeting held 28th September, 1830. *No. II.*—An Essay on Cattle. *By* John Wright, *Esq. of Chesterfield.*

——— Quæ cura boum, qui cultus habendo
Sit pecori * * * * * *
Hinc canere incipiam. *Virg. Georg.*

The great attention that has been paid by almost every spirited owner and occupier of land in the kingdom, to this branch of rural economy, shows the importance that is attached to it by those engaged in agricultural pursuits.

During the last century a society, having for its object "the improvement of the breed of cattle," was formed under the auspices of a noble duke, and since that time has been countenanced and supported by many of the nobility and gentry, of whom some were the highest in rank and fortune in the kingdom. Patronised and encouraged by Lord Althorp, and other distinguished characters, the society still continues to flourish, and an annual exhibition takes place in London about Christmas, to award prizes and liberal premiums for *fat* cattle of nearly every description. Similar societies, having for their object the exhibition and encouragement of *breeding* stock, have also been formed in most counties, and in some parts of the kingdom almost every market town has had its kindred institution. Thus one agricultural district seems to have vied with another in promoting a national benefit, by endeavouring to improve in the highest degree that particular breed of cattle which was indigenous to each. It cannot be denied that many a beautiful specimen of every species has been exhibited highly creditable to its respective owner. The high price given for choice animals has caused a greater number of the best bulls, of different herds, to be kept even by those who did not rank as bull breeders, hence it was that superior bulls came within the reach, and into the possession, of smaller farmers, and inferior breeds were thus considerably improved, whilst other circumstances conspired to injure what was then considered the best description of cattle. In size, in constitution, and in the quantity and quality of their milk, the best animals are not now what they then were. The principal cause of deterioration seems to have been the *general,* and I may add, the almost *universal* practice of farmers to breed from "small males." Men of education and talent have written in favour of this practice, and men of practical experience have implicitly followed their suggestions. This erroneous principle will explain the degeneration that has taken place among the best description of cattle, and it shall be my object at once to describe and to endeavour to confute both the theory and the practice above alluded to.

In explaining the principle of breeding from small males, we will suppose the male and female to possess equal qualities *in all other respects except size;* and we will also assume that the bull individually contributes to the formation of the fœtus *at least* an equal proportion with the cow. According to all the known laws of procreation, the produce will partake in an equal degree of the nature of its two parents, and be of a size intermediate between them. By this system, therefore, the size of the offspring is on every descent proceeding in a perpetually decreasing ratio; and in a number of generations the aggregate amount of these diminutions will be found to be very considerable indeed. For instance, by beginning to breed from a cow of which the average weight of the herd, taking it for granted to be uniform, is 70st. and from a bull of a herd of which the average weight is 65st. the female produce, as is well known, will be 67½st. Observe, *that it is not the weight of the bull himself, but the average weight of the race of cows from which the bull is descended, that should be the groundwork of calculation.* Again: the heifer calf, bred as above, will, when old enough, according to this principle, be put to a bull of a herd of cows 5st. less on an average, and the next generation will have decreased to 65st. So that, in the course of a few years or generations, the original stock will be reduced in size to such a degree, that little will remain to distinguish it from some herds of small and inferior cattle, except colour and the other characteristics peculiar to the species independent of size.

There are but few persons experienced in breeding cattle, who have not observed variations from this general law of procreation. Sometimes the small animal produces a large one, sometimes the large one a small one. Such anomalies are accounted for by supposing that the small stock, from which the large one is bred, has descended from a race of cattle formerly large, but rendered small by bad keeping, delicacy of constitution, or some other cause, which an acquaintance with its pedigree might elucidate.

On the other hand, large parents may produce much smaller progeny than themselves, from their being descended from a smaller stock, but become large from extra keeping, or, which is equally probable, from their partaking of the size of a cross which has at some former period been introduced into their ancestors. This is what is generally called *breeding back;* but all these are exceptions from the established maxim, that "*like begets like,*" and are the effects of the caprice of man, produced by a want of regularity and system in the selection of the different animals from which he breeds.

The principal reason why small males have been and are recommended in preference to larger ones, is an opinion which has and does prevail that they are better shaped, and possess more perfect symmetry, but this opinion is in the author's judgment by no means conclusive. It is admitted, however, that their imperfections are *less perceptible;* but that they do exist in smaller as well as larger animals is equally certain, and would be visible in the former, as well as the latter, if the scale of the former were enlarged as a picture can be by a pentagraph. The *defective parts of the smaller animal would then be increased* in due proportion, so as to be observable even by a careless eye. Besides, the bad points of the smaller animal are sooner concealed by fat; and should there be *a failing between two perfect* points, a little extra quantity of fat will soon hide it from the casual observer, but such hidden defects will not escape detection from the finger of a judge.

It will be remembered by some, that after the first great improvement took place in the breed of sheep by Mr. Bakewell, his sole attention was directed to symmetry, leaving out of consideration, size, wool, and constitution as things of minor importance, but experience very soon proved that the parts which had been neglected were of the utmost importance to the farmer, and that sheep could not be deemed good without them. Those who had adopted his principles, therefore, retraced their steps, and whoever has persevered in breeding from sheep possessing the above mentioned qualities, discarded by Mr. Bakewell and the advocates of his system, has been amply repaid by the result.

In the same way that the breeders of Leicester sheep had to retrace their steps, must the breeders of cattle proceed, by adopting a system differing from what they have followed, and afterward by persevering in that which experience has proved to be consistent with the laws of nature, and productive of the happiest effects in improving the desirable qualities in cattle. Sheep, it must be observed, by coming more quickly round to maturity, more quickly shew an error in their system, and for the same reason any error in sheep is more quickly corrected and they are more easily brought back to their former constitution.. But neat cattle require a number of years to make any material alteration in them, either for the better or worse.

There is another system of breeding which has had its advocates, and which should be cautiously abstained from, as *entailing* the most pernicious consequences---I mean that of "breeding in-and-in." It is not now so necessary to give this caution as it was some years ago. The public have perceived the baneful effects of this system, and by many theoretical as well as practical farmers has the bugle of alarm been repeatedly sounded. But if this essay should fall into the hands of breeders who still adopt the *in-and-in* system, let those breeders be reminded by one, who wishes well to his neighbours, that he has seen hundreds of otherwise beautiful animals die as victims to this unnatural and incestuous practice, and that the reasons produced in favour of it are, in the author's judgment, altogether insufficient to establish it as either natural or serviceable. Cattle thus bred have been recommended as being neater in form, as having less offal, a greater inclination to feed, &c. &c. and advocates have referred to animals *feræ naturæ,* in order to show that breeding in-and-in may be carried on with impunity. To these we object, affirming that it has not yet been *proved* that they are in fact neater in form, &c. &c. and that *other* beasts may be selected possessing all these perfections in an equal degree; and experience has taught us that *their* neatness in form is produced by a shortness in the back-ribs, by diminution in size, and an effeminacy of character. The lightness of offal attributed to them proceeds from a want of healthy flesh and substance generally and all which are strong indications of a weakened constitution, and of the ruinous consequences of incestuous intercourse.

It is also a notorious fact that beasts so bred are not so certain to breed, though it may be difficult to assign a reason; but if we look to the period before this system was fashionable we shall find that cows then very seldom failed to breed, and that it was then as rare an occurrence for a bull not to propagate as it is now common.

For a few descents I have known herds that have been incestuously bred, without general or great injury being perceptible, and this too has led breeders to persevere, thinking that all was right, but the *certain* effects in every case will and must sooner or later follow, namely, a loss of constitution, a reduction in size, general delicacy, and a difficulty in being reared, in many instances so great as to occasion the loss of nearly the whole of a herd of young stock. It is urged too, in support of this unnatural system, that the wild cattle in Chillingham, and other parks, which have bred indiscriminately for several hundred years, still possess the same constitutions as ever, and continue to be of the same weight when fat and at a certain age. With equal force are we referred to deer, hares, foxes, &c. and the whole host of animals feræ naturæ. But upon a comparison between those animals that are under the control and will of man, and those in a wild state, we shall discover a very great difference in the modes of breeding pursued by each. Although there can be no doubt that incestuous copulation is occasionally carried on by those wild animals in the parks referred to, yet upon minute investigation it will be found that the male produce of such illicit intercourse seldom has an opportunity of leaving any of his posterity behind him: indeed it appears as if nature had wisely ordered that it should not be so, as will be shown by the manner in which breeding is carried on among them; for the bull that possesses the favours of all the females is generally, if not always, the most remote from incestuous blood of any in the whole herd. The bull (or captain of the herd) does not gain his right of precedence from hereditary descent, nor yet from age or length of service, nor from colour, symmetry, &c. but *from his muscular powers and muscular qualifications,* each of which must be many times put to the test before he is able or entitled to fill the honorable post; as it is by dint of battle and superior strength that he must be raised to it, and by fighting that he most maintain it. Those who have not seen the desperate battles which these ferocious animals have with each other, will scarcely credit the best authenticated account of them. It frequently happens, that when the bull that has filled the captainship is vanquished by a stronger and more muscular animal than himself, he retires into a sort of voluntary exile, separating himself from the whole herd, as if conscious of his incompetency, and remaining in a retired and woody part of the park, where he appears to have lost his wild and ferocious nature, and will suffer people to approach near to him with impunity. This frequently happens with those that are fighting their way up to the captainship. Here is an example worthy of our mature deliberation, and doubtless from it may be derived results most beneficial. Hence we infer that the inclination to feed, size and constitution of beasts may be preserved by breeding from bulls of muscular powers and stamina, although the baneful cross of incests is not unfrequent, and hence also it is apparent that the milking propensities, symmetry, size and other qualities requisite to the formation of a perfect animal, may be obtained by proper attention to the selection of males.

Having briefly stated my objections to the system commonly adopted, it remains for me to endeavour to point out some other, by which the breed of cattle may certainly be improved, or at all events preserved. Commencing with the selection of cows, the writer would recommend that they be what is now considered of a *large*, but not an *extreme*, size; that they have great inclination to fatten, and possess a handsomely formed udder, with every other *milking* indication.

These three essential qualities, *size, inclination to fatten, and ability to give a large quantity of milk*, are, in my estimation, *absolutely* necessary, and should never be dispensed with. There is no objection, nay, it is even preferable for them to be possessed of colour, hair, symmetry and every thing else which the amateur may wish for, but these must be *in addition to the three great requisites.* In recommending so strongly the ability to give milk, as being decidedly the most valuable quality which a cow can possess, I shall be censured by many as belonging to the "old school." But the tenant, educated at the same school, who is enabled to pay his rent regularly twice in the year from milk, butter, and cheese, and the landlord who as regularly receives the same, will *both* join in acknowledging that the language which was taught *there* had at least for its object pounds, shillings, and pence.

In taking a slight glance at the value of butter or cheese made from two cows in one year, the one a good milker, and the other a bad one, we shall be astonished to find that there will be a difference between them of more than ten pounds, taking the average price for the last seven years of butter or cheese. As there is so great a loss in one bad milking cow, there is a proportionate loss in any larger number which a farmer may be so unfortunate as to possess. Notwithstanding the very great attention paid to the breeding of cattle, which by many has been termed a mania, the most unaccountable thing in it is the total neglect of this the most important part; and if there was any thing in their conduct deserving the appellation of "mania," surely we find it here.

Gentlemen may buy pictures, but farmers cannot afford to buy cows, merely to look at them and admire their beauty. Milk may be considered as an annually returning product for years. Beef is the fee simple, as it were, sold once it is gone for ever. It has been said, that grazing and milking properties cannot be combined. We admit that a cow which gives little milk, generally, from that circumstance, is in great condition, which however to some erroneously *appears* to prove her superior capability to feed, and causes her to be continued in the herd, under the hope that her produce will excel on the valuable property of feeding.

But when her produce has arrived at maturity and is sold to the *butcher*, the difference arising from the *annual* value of the cow's milk, compared with that of a good milker, should be deducted from the price for which her offspring is sold, and then a comparison instituted with that of the produce of a good milker, to determine which is the most valuable. It is almost impossible for a cow to give a great quantity of milk and be fat at one and the same time, but let her cease to give milk, and no reason can be assigned why she should not fatten as well as any other cow. Numerous instances might be produced of cows in an eminent degree excelling in *both* properties, among which we will mention a short-horned cow, rather larger in size than ordinary, with a long and fashionable pedigree, possessed of great inclination to fatten, that gave upon an average for 33 successive weeks the extraordinary quantity of 12lbs. of butter per week, (the weekly quantities were published in the Farmer's Journal and other newspapers,) and all her female offspring were very superior milkers and also good feeders. Cows that give much milk, being generally as before mentioned in lower condition than bad milkers, do not please *the eye:* but bulls ought to be reared only from such cows as are in reality of good symmetry, and possessed of the invaluable capability of giving milk, and thus propagating excellent milkers.

The qualities requisite for the cows to possess having engaged our attention, we next describe the bull. In size he ought to be the *same as the cows*, making due allowance for the sex, which of consequence will cause him to be larger. He should have great inclination to feed, in union with broad, round and deep ribs and *great substance*, and be so shaped as to lay beef upon those parts that are of most value to the butcher. He ought, as said before, (but it can never be too often repeated,) to be descended from a *good milking* cow, and to have such points as are likely to propagate it. Whatever else is desirable as regards symmetry, colour, &c. he *may* possess, but, *above every thing else, let him be masculine.*

Breeding from delicate and effeminate males cannot be too highly reprobated, it is from hence arise delicate constitutions and all their concomitants, peculiarities belonging to a race that cannot bear either cold or wet weather, or bad keeping, or *produce any profit* even from good keeping.

On closing the subject of *breeding* the author is desirous of adding a few words on the manner of *keeping cattle.* No definite and invariable food is applicable to all seasons and situations, since much must depend upon the quantity and quality possessed by the farmer. It is of the utmost importance, however, so to keep young stock that they may always be improving in condition, because thus is secured that highly desirable attainment—early maturity, the especial object of all the zeal displayed in the improvement of the breed of cattle. Should young cattle be badly kept *for one week only*, they will lose as much as will require a month to regain. Store stock, having arrived at maturity, may be kept more frugally, but *one young beast well kept* will leave more profit than *many badly kept.* By "*well* kept" the writer does not mean *profusely* or *extravagantly*, but, as before said, just so as to keep them constantly improving. Heifers in too high condition are not so certain to breed, and when they do breed will give less milk after calving than others moderately kept, as extreme fat prevents the regular and necessary increase of the lacteal, by the disproportionate growth of the other vessels. Young beasts should be classed according to size and age, and in winter kept in foldyards with *open* sheds to go into and from at pleasure. Their food is thus sweeter; the exercise they take promotes health and improves their general form, but particularly the manner of supporting themselves upon their legs. It prevents their being sickle-hocked—a defect frequent in young cattle much confined; they also preserve their hair later in the spring, and are better able to bear the cold when first turned out to grass. Young beasts kept in warm houses during winter, make but little progress when first turned out to grass; on the other hand, it frequently happens that they lose, instead of gaining condition, during the first month or six weeks, especially in exposed situations or during wet or cold weather, which at the season alluded to is very frequently the case.

It would lengthen this essay too much, to enter into all the other branches connected with the breeding of cattle; and after all, much of the minutiæ attending it can be gained by experience only. Culley, in his Treatise on Cattle, when speaking of handling, tells us, that there is a peculiar touch requisite, which language cannot define or express. So are there other things difficult to describe. Every practical breeder must be aware of this, and will perceive that the author hasgiven the principal outlines, and leaves the remainder to be supplied by the experience of those engaged in the breeding of cattle.

In the essay now offered to the Manchester Agricultural Society, it will be perceived that the author has refrained from attempting any thing beyond a plain unvarnished statement, and has he trusts expressed his facts in such a manner and in such language as to make himself thoroughly intelligible to farmers. Every thing which has been advanced is the result of considerable and long-continued experience, united with the mature consideration of the practice of other breeders—many of whom are deservedly high in the estimation of the public. The author has had many years of intimate acquaintance with nearly all the principal breeders of cattle in the north of England, as well as attended most of the principal exhibitions of good stock, at many of which he has acted as a judge; which circumstances have afforded him frequent and valuable opportunities of witnessing the practical effects produced by the various methods pursued by different breeders, and have enabled him to arrive at the conclusions which he humbly submits to the consideration of the Manchester Agricultural Society.

(From the Winchester Republican.)

IMPROVED SHORT-HORN CATTLE.

Lucky-hit Farm, Frederick County, Va.

Mr. Davis:—If the annual notice of the progress of an animal esteemed remarkable of his kind, can be made an agreeable subject to yourself or readers, from an anticipation of the many advantages it has in prospect, I would respectfully solicit a column or so to offer a few remarks, and exhibit a testimony which will be too well known to be at all doubted, in relation to the short-horn breed of cattle.

I know not how to introduce anew our bull *Powell* in a more acceptable manner, and least tiring to many of your readers, than by attaching him to one of your rail-road cars, to assist in transportations of our produce to Baltimore. If to his general usefulness he superadds a fleetness of walk (say 4 or 5 miles per hour,) with strength sufficient to convey from 200 to 500 barrels of flour to Baltimore in less than 24 hours, I am sure you will not think it an idle project, but truly worthy the attention of our farmers to encourage.

Will it not, then, be of great importance to breed a race of cattle to meet the exigencies of the times, the peculiar demand, and correspond, if possible, with the anticipated improvements in our vicinity?—Not merely as it regards strength and activity for the facilities of transportation, but as tributary, in many other respects, to the plenitude of those very cars which may be so nobly wielded by their power. I refer to the articles of beef, hides, tallow, butter, cheese, &c. &c. But, should the motion of these short-horns finally prove too sluggish for the speed of the railway, they will undoubtedly be the most important auxiliaries on every cross road of supply, and be ready, with their abundance of tallow, to cool and moderate the friction of the groaning of fugitive cars.

I have now in training a very superior animal for the exclusive use of your town and neighborhood early in the next spring; and, although I would recommend the improvement of a degenerate stock near and wide around you, I am not about to enter into a dissertation on their merits, or their necessary co-operation with other interests to promote the future elevation of any particular point or place. It would, indeed, require but little ingenuity to show the considerable bearing this subject has upon the progress of an inland town looking forward to great supremacy from advantages to be derived from the industry and progressive knowledge of the surrounding country; but it might require much more, perhaps, to work an effectual conviction of the necesity of a general reform in our agriculture, before the anticipations of the zealous and talented friends of local improvements can be fully realized—before a thrifty inland town can be made to abound in wealth, population, mechanic arts, and every comfort and advantage to be derived from modern improvements in morals and science. A dairy farm near Winchester, on a considerable scale, would be profitable and convenient: such an one in the neighborhood of Baltimore, of less than 500 acres, yields its conductor from 8,000 to 10,000 dollars per year. This would be but a small item in the support of a great population, when towns and the surrounding country would vie with each other in mutual efforts to sustain the interests of each.

The evidence in favor of the short-horn breed of cattle has, in our country, not extended, as yet, further than to calves of one and two years old—their milking properties have not been tested, nor can they be for a year or two to come.

The following testimony is in reply to a requisition made on the experience of several gentlemen who have bred from the bull *Edward*, desiring them to say what their success, if any, depended upon—whether superior keep, because of the novelty of the thing, or mainly from the cross of an animal radically differing in his form, &c. from their own stock.

—

Testimony of the Rev. Thomas Kennerly.

I have but two calves from the bull Edward of which I can be certain—the one a year and a few days old, the other 11 months and some days. They now shew for themselves, being in weight 5 or 6 months before my other calves, and in form scarcely bearing comparison. I cannot say their keeping has been no better than others; but the slight difference in keeping bears a very small proportion to their superiority. They were not of my best cows, but sucked longer—fed through the winter as the rest—fodder, straw, and some hay. Some have viewed them and supposed the male worth $100, and heifer $50. I would not take that for them.

Testimony of James M. Hite, Esq.

In reply to your queries concerning the improvement of our cattle by the introduction amongst us of the shorthorn bull Edward, I am sorry to say I have had as yet but little "success or experience." Two of the four calves I have had died suddenly and unexpectedly, after I had supposed them to be old enough, say 8 or 9 months, to wean. One of the two now living is, in my opinion, one of the finest formed animals of his species I have ever seen. He has never been fed with grain or bran, or any thing of the sort, and has had no other extraordinary keeping but the advantage of his mother's milk until he was more than a year old; nor did the mother fare any better than my other milk cattle, which I never fed with grain,—but generally with fodder or hay during the winter, and last winter, while the snow was on the ground, they lived chiefly on straw.

Testimony of George H. Burwell, Esq.

I have bred from the shorthorned bull Edward, and think his calves the finest I have ever seen. I am decidedly of opinion that the shorthorned stock of cattle is the best in this country, combining more advantages than any other stock that I am acquainted with, early maturity, great weight, beauty and activity.

Testimony of Dr. Matthew Page.

I have lost my fine bull calf by Edward, 10 months old. There may be many who would laugh when I say that if he were alive I would not take $100 for him; but 'tis nevertheless a fact. I have a heifer now eleven months old, for which I would not take $75. Both of these calves were out of the most indifferent cows, not worth more than ten dollars; and my reason for putting them to Edward was to have a fair experiment, and I do not believe the veriest skeptic that ever lived would hesitate to give his entire assent to the superiority of the Durham shorthorns if he could but view these calves. My experiment, I think, in breeding from Edward, was a fair one. They were raised as common cattle; not one mouth full of meal or rich food, only stalk fodder, and without shelter—all this during the last inclement winter—yet they show superiority—yes, even from the day they were dropped; and if any one disbelieves it, come and look; I am sure they will be satisfied. It has been said, and urged as an objection to breeding from the English stock, that they will not thrive under common and careless method of raising them. This is a mistake, as I have proved from actual experiment during the late severe winter, subjecting the calves of this breed to all severities, both of winter and food. I hope, sir, the time is at hand when men will dismiss their prejudices, believe their own eyes, breed from the English stock, alter their big-headed, mis-shapen animals, and reap their reward.

Testimony of Thomas F. Nelson, Esq.

In reply to your inquiries as to the benefit resulting to my cattle from the cross of the shorthorned bull Edward, I am gratified to have it in my power to state that a degree of improvement has taken place in my young stock so decided as not to be questioned by the most skeptical, and too manifest to be overlooked by the most careless spectator. In size, beauty of form, thriftiness and early maturity. I have never seen any cattle at all comparable to the shorthorns; nor can I attribute their great growth, and disposition to fatten at an early age, to the influence of very high feeding. My own half-bred shorthorns have been reared in such a manner as might generally be observed by the farmers of our country in regard to their young cattle. I have been disposed to test the value of this kind of stock as compared with our common cattle, fully impressed with the idea that if they would not answer upon ordinarily good keeping, they would not suit me. From my experience I should decide that they are more hardy than our country cattle; and whilst upon full feed, they will attain a size almost incredible to those accustomed only to our old stock; they will, upon the same fare, grow much faster and much larger than the common cattle of our country.

As to milkers and draught cattle, I have no experience in regard to the shorthorns; but I am informed that as a means of improving the quality of the milk, the cross is very desirable; and as oxen, I think that from their uncommon breadth of back, loin and quarters, their depth and width of brisket, and their extraordinary quantity of muscle, very great strength may be inferred; whilst from their clean limbs and quick step, I should suppose they would far excel the ordinary cattle in quickness of motion. On the whole, I consider that the introduction of this race of cattle is likely to confer upon our agricultural community benefits at once immediate and permanent.

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It must be presumed that, after this respectable and unequivocal testimony, farmers will cease to believe there is no special merit in one animal over another, but that high feeding will be productive of all necessary qualities.

An experiment has lately been made, well known to your butchers, which has been worth years of outside speculation and theory, on the form and weight of animals of the cattle kind. An ox nearly six years old, and tolerably well fed for the last two winters, having been treated in the ordinary manner previously, weighed in the scales, alive, nearly 2,000 lbs.; but, when brought to the market, only 1156 lbs. net beef, by the butcher's report—a deficiency of nearly 150 lbs. on his most cautious calculation; others were deceived from 200 to 300 lbs. And why? because, although the ox had light bone and neck, he wanted length of body, was narrow behind, and had an enormous belly—but withal was so well put together, and attractive in his general appearance, as to deceive all who saw him.

On the 6th June the Frederick shorthorn bull Powell is put into the same scales, and weighs, before a committee of farmers, 1,741 lbs. at 2 years 1 month and 11 days old, within 249 lbs. of the 6 year old steer, and believed by many persons to have as much if not more beef. And why? Because, by the measurement of the committee, his girth was 7¼ feet, length 9½ feet, and height 4 feet 10 inches. His girth being back of the fore-legs, and not comprehending the swell of the belly, will readily, with judges, account for his weight at so early a period, and will more or less reconcile the belief that he would produce between 1100 and 1200 lbs. of beef—leaving, after the deduction of hide, tallow, &c. intestines (gross offal) to be exceeding light; which calculation is borne out in the appearance of the animal—his uniformity of body, rotundity, straightness of back, &c.

Powell has been weighed nearly semi-annually. 1st. At nearly 8 months old, he weighed 708 lbs.; 2d. At 12 months old, 1044 lbs.; 3d. At 18 or 20 months old, 1417 lbs.; 4th. At 2 years 1 month and 11 days old, 1741 lbs.; on the 6th June 1831, before a committee.

Powell's full brother *Frederick* will be at the service of any individual or company in the approaching autumn, and promises to be equal to Powell.

To speak of the thrift and great promise of all the stock of this kind which has been raised by the subscriber, would savour too much of boasting; therefore I will only say, in the words of one of my testifying neighbors, "come and see."

With regard to the general treatment observed towards stock of any kind, the subscriber candidly declares an unwillingness to acknowledge an application of the scarcely medium care bestowed by his neighbors: if he had not in view the improvement and perfection of animals for the sopply of remote demands, he would nevertheless think it of sufficient importance to increase the ordinary profits (if indeed there are any,) by an additional attention. A large and indifferent stock on a farm will tend to a certain and absolute impoverishment—a judicious one as to number, and well-bred, is as certain an improver and enricher of the soil, insuring at the same time a bountiful reward of every comfort and convenience designed in their creation.

The last severe winter afforded me an unwelcome und undesigned opportunity of testing the stamina and progress of the young shorthorn stock: deprived of rye grazing or grass for more than two months of hard snowy winter, and unprovided with a sufficient store of hay for all kinds of stock, the young shorthorns, in common with other cattle, had to breast the storm—and if they did not grow rapidly through little more than the hard fare of straw, chaff, and corn-stalks, they at least preserved a respectable appearance until the rye and orchard grass put them up to their usual thrift, and insured from the young heifers calves of increasing value.

In the experience of some of the gentlemen whose opinions have been solicited, there are prominent circumstances worthy of the most attentive consideration, especially as regards the marked difference between shorthorns and other breeds at the very earliest stage of their growth—their hardiness, and aptitude to fatten and out-grow other cattle on the same kind of treatment. The most rational theory must agree with the practice of these gentlemen, who are well known to be judicious and successful in their agricultural pursuits.

Is it at all wonderful that the progeny of an animal distinguished by remarkable points and qualities, should differ most radically from that of an ill-shaped and degenerate one? Is it wonderful that the vigor infused into a young animal by a healthy and discriminate cross, should feel the influence of such renovation, and from day to-day, week to week, month to-month, and year to-year, exhibit continued and varied marks of improvement, and great ultimate superiority? Or that efforts making for more than half a century, by breeders who have been vying with each other in the perfection of the different kinds, should terminate in decided and discriminate improvements? As to the attempt to force a degenerate stock into good form and value by high feeding, as prudent would it be for a mechanic to put an expensive finish on a tottering foundation; in either case the materials or food would be lavished in vain. Time, plan, and the proper means, are essential, in all human improvements, to the most desirable success.

In the toil of a hay-harvest, I hope, sir, you will overlook the errors of a few hasty hints to the farmers of Virginia, and permit me to correct an impression which has more or less prevailed, that my farm is exclusively devoted to stock. A very brief outline of its plan and management will conclude my remarks.

The object is to combine with the improvement of the soil (always first) wheat and stock, principally cattle and sheep. Hogs have become much in the way, as usually raised with a general privilege, and will be in future confined to pens. Horses are raised only for farming purposes—as, from experience, it is found to be difficult, on the same farm, and with a divided attention, to succeed to any degree of perfection. From 150 to 200 sheep, and from 40 to 50 cattle, are kept on 500 acres of cleared land. 150 acres of wheat is considered an average crop, and 50 of corn—leaving 300 acres in clover and orchard grass, timothy, blue grass, &c. A succession of twenty-acre fields in orchard grass and clover combined, is considered essential to the uniform and abundant supply of grazing for the stock—and a succession of forty-acre clover fields, without mixture, on the thinnest grounds, with a view, first, to the improvement of the land, and then for hay, seed, and auxiliary grazing. Independent of any extraordinary advantage to be derived from stock raising, it is questioned whether our lands will bear more than the cultivation of two-fifths yearly, and improve under it. Rich lowlands, and such as are peculiarly situated, might present a different calculation.

Your obedient servant, R. K. Meade.

(From the New England Farmer.)

HOVEN IN CATTLE.

In feeding cattle with green clover or turning them into a fresh clover pasture, great attention is necessary to prevent them from becoming swollen or hoven which is very apt to take place when they are first put on this food, especially if it is wet with rain or dew. Cattle are exposed to this danger, whether they are sent to feed on clover in a pasture or have it cut and brought to them; but there is less hazard in the latter than in the former mode of using this grass, especially if the plants are growing rapidly, and are very full of sap. After being accustomed to this rich food for a few days, during which it should be given rather sparingly, the danger is much diminished; but it is never safe to allow milch cows in particular to eat large quantities of wet clover. The best mode of management, in many cases, is to turn cattle into a fresh clover field for about half an hour near the middle of a fair day, and then turn them out of that field into a poorer pasture. The next day the *baiting*, as it is called, may be repeated, and the cattle allowed to stay a little longer in the clover field, till at length they may be permitted to remain in it during the day time, but as long as the grass retains any considerable degree of luxuriance, it will be safest to yard the cattle at night, and not turn them into their clover pasture till the dew is off in the morning.

If however in consequence of negligence or accident, cattle or sheep are *swollen* or *hoven*, or the stomach is rendered incapable of discharging its contents, a remedy must be speedily applied or the animal is lost. The usual remedy for this disorder has been to stab the animal with a penknife, or other sharp instrument under the short ribs, and put into the orifice a tube of ivory, elder, a goose quill, or something of the kind to give vent to the confined air. The wound is then dressed with some sort of adhesive plaster, and thus, in general, the cure is easily effected. The following remedies are also recommended. "Apply a dose of train oil, proportioned to the age and size of the animal. Give to an ox or cow a pint from a bottle, and rub the stomach well in order to make it go down, and give the animal exercise."—*Far. Mag.*

Make about a pint of ley either with hot embers thrown into a sufficient quantity of water, or by dissolving therein about an ounce of pot or pearl ash, and turn it down the throat of the ox or cow affected. A proportionably less quantity will answer for a sheep. This is said to give immediate relief by neutralizing the carbonic acid gass in the stomach of the animal, which causes the swelling and other symptoms of the complaint to subside.

Loudon says there are three modes of relieving this complaint, which may be adverted to according to the degree of distention and length of time which it has existed. These are internal medicines; the introduction of a *probang* of some kind into the paunch by the throat; and the puncturing it by the sides. Dr. Whyatt of Edinburgh, is said to have cured eighteen out of twenty hoven cows, by giving a pint of gin to each. Oil, by condensing the air, has been successfully tried. Any other substance also, that has a strong power of absorbing air, may be advantageously given; common salt and water made strongly saline is a usual country remedy. New milk with a proportion of tar equal to one sixth of the milk is highly spoken of. A strong solution of prepared ammonia in water often brings off a great quantity of air, and relieves the animal. Any of these internal remedies may be made use of when the hoven has recently taken place, and is not in a violent degree. But when otherwise, the introduction of an instrument is proper and is now very generally resorted to. The one principally in use is a species of probang, invented by Dr. Munro, of Edinburgh. Another, consisting of a cane of six feet in length, and of considerable diameter, having a bulbous knob of wood, has been invented by Eager, which is a more simple machine, but is hardly so efficacious. It is probable that in cases of emergency, even the larger end of a common cart whip dexterously used might answer the end. But by far the best instrument for relieving hoven cattle, as well as for clystering them, is Read's enema apparatus, which is alike applicable to horses, cattle and dogs. It consists of a syringe to which tubes of different kinds are applied, according to the purpose and the kind of animal to be operated upon. There is a long flexible tube for giving an enema to horses and cattle; and a smaller one for dogs. To relieve hoven bullocks effectually it is necessary not only to free the stomach from an accumulation of gas, but from the fermenting mixture which generates it; for this purpose a tube is applied to the extremity of the syringe, and then passed into the animal's stomach through the mouth, and being put in action, the offending matter is discharged by an opening. When the same operation is performed on sheep a smaller tube is made use of. The characteristic excellency of Read's instrument is, that there is no limit to the quantity of fluid that may be injected or extracted. The same syringe is used for extracting poison from the stomach of man, for smoking insects, extinguishing fires, and syringing fruit trees. The introduction of any of these instruments may be effected by the help of an assistant, who should hold the horn of the animal with one hand and the dividing cartilage of the nose with the other, while the operator himself, taking the tongue in his left hand, employs his right in skilfully and carefully introducing the instrument; the assistant bringing the head and neck into such an attitude as to make the passage nearly straight, which will facilitate the operation. But when no instruments can be procured, or as cases may occur when indeed it is not advisable to try them; as when the disease has existed a considerable time, or the animal has become outrageous, or the stomach so much distended with air that there is danger of immediate suffocation or bursting, the puncture of the maw must be instantly performed, which is called *paunching*. This may be done with the greatest ease, midway between the ilium, or haunch bone, and the last rib of the left side to which the haunch inclines; a sharp penknife is frequently used; and persons in veterinary practice should always keep a long trochar, which will be found much the most efficacious, and by far the most safe, as it permits the air escaping certainly and quickly, at the same time that it prevents its entrance into the cavity of the abdomen, which would occasion an equal distention. As soon as the air is perfectly evacuated, and the paunch resumes its office, the trochar may be removed; and in whatever way it is done the wound should be carefully closed with sticking plaster or other adhesive matter. It is necessary to observe that the operation is so safe that whenever a medical assistant cannot be obtained, no person should hesitate a moment about doing it himself. After relief has been afforded by means of either the probang or of paunching, a stimulant drink may yet be very properly given, such as half a pint of common gin; or one ounce of spirit of hartshorn in a pint of ale, or two ounces of spirits of turpentine in ale, may any of them be used as an assistant stimulus.

HORTICULTURE.

(From the New England Farmer.)

Proceedings of the Massachusetts Horticultural Society at an adjourned meeting, held in the apartments of the Institution, on Saturday, the 18th of June, 1831.

The following report was made by the committee on a garden of experiment and rural cemetery.

The committee appointed to inquire into the expediency of measures being taken for the establishment of an Experimental Garden, and Rural Cemetry, ask leave to

Report.

When the Massachusetts Horticultural Society was organized, it was confidently anticipated, that, at no very distant period a garden of experiment would be established in the vicinity of Boston; but to arrive at such a pleasing result, it was deemed expedient that our efforts should first be directed, to the accomplishment of objects, which would not require very extensive pecuniary resources; that we should proceed with great caution, and by a prudential management of our means, gradually develope a more complete and efficient system for rendering the institution, as extensively useful, as it was necessary and important. Public favor was to be propitiated, by the adoption of such incipient measures, as were best calculated to encourage patronage and insure ultimate success.

With these views, the labors of the society have been confined to the collection and dissemination of intelligence, plants, scions, and seeds, in the various departments of Horticulture. An extensive correspondence was therefore opened with similar associations in this country, and Europe, as well as with many gentlemen, who were distinguished for their theoretical attainments, practical information and experimental researches, in all the branches of rural economy, on this continent, and other portions of the globe.

The kind disposition, which has been generally evinced, to advance the interests of the society, has had a salutary and cheering influence. Many interesting and instructive communications have been received, and valuable donations of books, seeds, and plants have been made by generous foreigners, and citizens of the United States. A liberal offer of cooperation has been promptly tendered, in both hemispheres, and great advantages are anticipated, from a mutual interchange of good offices.

A library of considerable extent has been formed, containing many of the most celebrated English and French works on horticulture, several of which are magnificent. The apartments for the accommodation of the society, have been partially embellished with beautiful paintings, of some of our choice native varieties of fruits; and by weekly exhibitions, during eight months of the year, of fruits, flowers, and esculent vegetables;—by awarding premiums for proficiency in the art of gardening, and the rearing of new, valuable, or superior products;—by disseminating intelligence, and accounts of the proceedings of the society at its regular and special meetings, through the medium of the New England Farmer; and by an annual festival, and public exhibition of the various products of horticulture, an interest has been excited, and a spirit of inquiry awakened, auspicious to the Institution, while a powerful impulse has been given to all the branches of rural industry, far beyond our most sanguine hopes.

To foster and extend a taste for the pleasant, useful and refined art of gardening, the time appears to have arrived, for enlarging the sphere of action, and giving the most ample development to the original design of the society.

The London, Paris, Edinburg and Liverpool Horticultural associations, have each established experimental gardens, and the beneficial effects have been conspicuously experienced, not only throughout England, Scotland and France, but the whole civilized world is deriving advantages from those magnificent depositories, of the rarest products, which have been collected, from the vast domains of Pomona and Flora. These noble precedents have been followed, in Russia, Germany, Holland and Italy. We must also emulate the meritorious examples of those renowned institutions, and be thus enabled to reciprocate their favors, from like collections of useful and ornamental plants. An equally enlightened taste will be thus superinduced for those comforts and embellishments, and that intellectual enjoyment which the science and practice of horticulture afford.

With the Experimental Garden, it is recommended to unite a Rural Cemetery; for the period is not distant, when all the burial grounds within the city will be closed, and others must be formed in the country,—the primitive and only proper location. There the dead may repose undisturbed, through countless ages. There can be formed a public place of sepulchre, where monuments can be erected to our illustrious men, whose remains, thus far, have, unfortunately, been consigned to obscure and isolated tombs, instead of being collected within one common depository, where their great deeds might be perpetuated and their memories cherished by succeeding generations. Though dead, they would be eternal admonitors to the living,—teaching them the way, which leads to national glory and individual renown.

When it is perceived what laudable efforts have been made in Europe, and how honorable the results, it is impossible that the citizens of the United States should long linger in the rear of the general march of improvement. They will hasten to present establishments, and to evince a zeal for the encouragement of rural economy, commensurate with the extent and natural resources of the country, and the variety of its soil and climate.

Your committee have not a doubt that an attempt should be made in this state to rival the undertakings of other countries, in all that relates to the cultivation of the soil. The intelligent, patriotic and wealthy will cheerfully lend their aid, in the establishment of a Garden of Experiment, and a Cemetery. Massachusetts has ever been distinguished for her public and private munificence, in the endowment of colleges, academies, and numerous associations for inculcating knowledge, and the advancement of all branches of industry. A confident reliance is therefore reposed on the same sources of beneficence. The Legislature will not refuse its patronage, but will readily unite with the people in generous contributions, for the accomplishment of objects, so well calculated to elevate the character of the commonwealth, and that of its citizens.

The experimental garden is intended, for the improvement of horticulture in all its departments, ornamental, as well as useful.

The objects which will chiefly claim attention, are, the collection and cultivation of common, improved, and new varieties of the different kinds of fruits, esculent vegetables, forest and ornamental trees and shrubs, flowering, economical and other interesting plants, which do not exclusively belong to the predial department of tillage;—paying particular attention to the qualities and habits of each;—instituting comparative experiments, on the modes of culture, to which they are usually subjected, so as to attain a knowledge of the most useful, rare and beautiful species;—the best process of rearing and propagating them, by seeds, scions, buds, suckers, layers, and cuttings;—the most successful methods of insuring perfect and abundant crops, as well as satisfactory results, in all the branches of useful and ornamental planting, appertaining to Horticulture.

Compartments to be assigned for the particular cultivation of fruit trees, timber trees, ornamental trees, and shrubs, esculent vegetables, flowers, and for the location of green houses, stoves, vineries, orangeries, and hot beds.

For the accommodation of the garden of experiment and cemetery, at least seventy acres of land are deemed necessary; and in making the selection of a site, it was very important that from forty to fifty acres should be well or partially covered with forest trees and shrubs, which could be appropriated for the latter establishment; and that it should present all possible varieties of soil, common in the vicinity of Boston;—be diversified by hills, valleys, plains, brooks, and low meadows, and bogs, so as to afford proper localities for every kind of tree and plant, that will flourish in this climate;--be near to some large stream or river; and easy of access by land and water; but still sufficiently retired.

To realize these advantages it is proposed, that a tract of land called Sweet Auburn, situated in Cambridge, should be purchased. As a large portion of the ground is now covered with trees, shrubs and wild flowering plants, avenues and walks may be made through them, in such a manner, as to render the whole establishment interesting and beautiful, at a small expense, and within a few years; and ultimately offer an example of landscape or picturesque gardening, in conformity to the modern style of laying out grounds, which will be highly creditable to the society.

The streams, and parcels of bog and meadow land may be easily converted into ponds, and variously formed sheets of water, which will furnish appropriate positions for aquatic plants, while their borders may be planted with Rhododendrons, Azaleas, several species of the superb Magnolia, and other plants, which require a constantly humid soil, and decayed vegetable matter, for their nourishment.

On the southeastern and northeastern borders of the tract can be arranged the nurseries, and portions selected for the culture of fruit trees and esculent vegetables, on an extensive scale; there may be arranged the arboritum, the orchard, the culinarum, floral departments, melon grounds and strawberry beds, and green houses.

The remainder of the land may be devoted to the cemetery.

By means of a more extensive correspondence, with eminent horticulturists it is certain, that many valuable, rare and beautiful plants may be obtained, not only from all parts of our own country, but other regions of the globe, which could be naturalized to the soil and climate of New England. This can be efficiently undertaken, so soon as a garden of experiment is formed, but it would be almost useless to procure large collections of seeds or plants, until we are enabled to cultivate them, under the immediate direction of the society.

Accounts of the experiments, which may be made should be periodically reported and published; and seeds, buds, cuttings and uncommon varieties of rooted plants may be distributed among the members of the society, and be sold for its benefit, in such manner as may be found most expedient, to render the garden the most extensively useful in all its relations with the wants, comforts and pleasure of life.

Such an establishment is required for "collecting the scattered rays of intelligence, and blending them with the science and accumulating experience of the times," and then diffusing them far and wide, to cheer and enlighten the practical horticulturist in his career of agreeable and profitable industry. It will powerfully contribute to increase the taste for rural pursuits,—stimulate a generous spirit of research and emulation,—suggest numerous objects worthy of inquiry and experiment,—multiply the facilities of information and the interchange of indigenous and exotic plants,—develope the vast vegetable resources of the Union,—give activity to enterprise,—increase the enjoyment of all classes of citizens,—advance the prosperity, and improve the general aspect of the whole country.

The establishment of a Cemetery in connexion with the Garden of Experiment, cannot fail of meeting public approbation. Such rural burial places were common, among the ancients, who allowed no grave yards within their cities. The Potter's field was without the walls of Jerusalem, and in the twelve tables, it was prescribed "that the dead should neither be buried or burned in the city" of Rome. Evelyn states, "that the custom of burying in churches and near about them, especially in great cities, is a novel presumption, indecent, sordid and very prejudical to health; it was not done among the Christians in the primitive ages;" was forbidden by the emperors Gratian, Valentian and Theodosius, and never sanctioned until the time of Gregory the great. The eastern Christians do not now inter the dead within their churches. During the age of the patriarchs groves were selected as places of sepulchre. When Sarah died, Abraham purchased "the field of Ephron, in Machpelah, with all the trees that were therein and the borders round about, as a burying place," and there he buried his wife; "and there they buried Abraham, Isaac, Rebekah and Leah;" and when Jacob had blessed his sons, he said unto them, "I am to be gathered unto my people; bury me with my fathers in the cave that is in the field of Ephron." Deborah "was buried beneath Beth el under an oak," and the valiant men of Jabesh-gilead removed the bodies of Saul and his sons from the walls of Bethshon and "buried them under a tree." Moses was buried in "a valley in the land of Moab;" Joseph in "a parcel of ground in Shechem;" Eleazer, the son of Aaron, "in a hill that pertained to Phinehas," and Manassah with Amon "in the garden of Uzza."

The planting of rose-trees upon graves is an ancient custom, Anacreon says, that "it protects the dead;" and Propertius indicates the usage of burying amidst roses.

Plato sanctioned the planting of trees over sepulchres, and the tomb of Ariadno was in the Arethusian Grove of Crete. The Catacombs of Thebes were excavated in the gorges of the forest clad hills, on the opposite bank of the Nile, and those of Memphis were beyond the lake Acherusia, from whence the Grecian mythologists derived their fabulous accounts of the Elysian fields. There it was supposed the souls of the virtuous and illustrious retired after death, and roamed through bowers, forever green, and over meadows spangled with flowers, and refreshed by perennial streams. In the mountains near Jerusalem were located the tombs of the opulent Israelites; and in a Garden, near the base of Calvary had Joseph, the Aramathean, prepared that memorable sepulchre in which was laid the crucified Messiah. The Greeks and Romans often selected the secluded recesses of wooded heights and vales as favourite places of interment, or the borders of the great public highways, where elegant monuments were erected, and surrounded with Cypress and other ever verdant trees. Many of the richly sculptured sarcophagi and magnificent tombs reared by the once polished nations of Asia Minor are still to be seen in the vicinity of the numerous ruined cities, on the deserted coast of Karamania.

The Athenians allowed no burials within the city. The illustrious men, who had either died in the service of their country, or were thought deserving of the most distinguished honors, were buried in the Ceramicus,—an extensive public cemetery on the road to Thria. Tombs and statues were erected to their memory, on which were recounted their praises and exploits; and to render them familiar to all, to animate every citizen to a love of virtue and of glory, and to excite in youthful minds, an ardent desire of imitating those celebrated worthies, the spacious grounds were embellished with trees and made a public promenade. Within the Ceramicus was the Academy where Plato and the great men who followed him met their disciples and held assemblies for philosophical conference and instruction. Connected with the Academy was a Gymnasium and a garden, which was adorned with delightful covered walks, and refreshed by the waters of the Cephisus, which flowed, under the shade of the plain and various other trees, through its western borders. At the entrance and within the area of the garden were temples, altars and statues of the gods.

The bodies of the Athenians, who had fallen in battle, were collected by their countrymen, and after they were consumed on the funeral pile, their bones were carried to Athens; there they were exposed, in cypress coffins, under a large tent, for three days, that the relations might perform those libations which affection and religion enjoined; then they were placed on as many cars, as there were tribes, and the procession proceeded slowly through the city, to the Ceramicus, where funeral games were exhibited, and an orator publicly appointed for the occasion, pronounced an eulogium.

Even the Turks, who are so opposed to the cultivation of the fine arts, embellish their grave yards with evergreens. With them it is a religious duty, to plant trees around the graves of their kindred, and the burying ground of Scutari is one of the most interesting objects in the environs of Constantinople. Situated in the rear of the town and extending along the declivity of the Asiatic shore, towards the sea of Marmora, it presents a vast forest of majestic trees; and thither the inhabitants of the imperial city generally resort, during the sultry months of summer, to enjoy the cool breezes, which descend from the Euxine, or are wafted over the waves of the Propontis. Throughout Italy, France and England, there are many cemeteries which are ornamented with forest trees and flowering shrubs. Pere La Chaise, in the environs of Paris has been admired, and celebrated, by every traveller, who has visited that beautiful garden of the dead.

In Liverpool a similar burying ground was completed three years since, and a meeting has recently been held in London for forming one, in the vicinity of that city, of a size, and on a scale of magnificence, which shall quadrate with the wealth and vast extent of the mighty capital of a great nation. Within the central area are to be exact models of the superb temples, triumphal arches, columns and public monuments of Greece and Rome, as receptacles, or memorials of the departed worthies of the empire.

The establishment of rural cemeteries similar to that of Pere La Chaise, has often been the subject of conversation in this country, and frequently adverted to by the writers in our scientific and literary publications. But a few years since, a meeting was held in Boston, by many of its most respectable citizens, for the purpose of maturing a plan and forming such an establishment, in the environs of that city. No one can be indifferent to a subject of such deep and universal interest. In whatever point of view it is considered, who is there, that does not perceive numerous and powerful inducements, for aiding in its accomplishment? How consoling and pleasing is the thought that our memories shall be cherished after death; and that the spot, where our ashes repose, shall be often visited, by dear and constant friends; that they will there linger, to call up the soothing, yet melancholy reminiscenses of by-gone times; that the sod which covers us; will be kept ever verdant; that a magnificent forest will be reared to overshadow our graves, by those truly kind hands, which performed the last sad office of affection; that flowers will fringe the pathways leading to our lowly resting place, and their fragrance, mingled with the holiest aspirations ascend towards the throne of the Eternal.

To those who mourn, what a consolation to visit the bower-sequestered monument of a much loved friend, under circumstances and with associations, so favorably calculated to revive agreeable recollections of the past, and when those revolting ideas are excluded, which obtrude upon the mind, while standing in the usual dreary, desolate and ruinous repositories of the dead.

In a Rural Cemetery the names and virtues of the departed would live in perpetual freshness, and their souls seem to commune with those who come to do honor to their manes. Thus would all like to repose in death; and who would not deem it a blessing, to be able to confer that favor on a parent, child, wife, husband, or friend? How can this object be so successfully accomplished as in connexion with an experimental garden? That part of the land which has been recommended for a CEMETERY, may be circumvallated by a spacious avenue, bordered by trees, shrubbery and perennial flowers; rather as a line of demarcation, than of disconnexion; for the ornamental grounds of the GARDEN should be apparently blended with those of the Cemetery, and the walks of each so intercommunicate, as to afford an uninterrupted range over both, as one common domain.

Among the hills, glades and dales, which are now covered with evergreen, and deciduous trees and shrubs, may be selected sites for isolated graves, and tombs, and these being surmounted with columns, obelisks, and other appropriate monuments of granite and marble, may be rendered interesting specimens of art; they will also vary and embellish the scenery, embraced within the scope of the numerous sinuous avenues, which may be felicitously opened, in all directions, and to a vast extent from the diversified and picturesque features, which the topography of the tract of land presents.

Besides the great public advantages, which will result, from the horticultural departments, that portion of the land which may be consecrated to the dead, and rendered like the Elysian fields of the Egyptians, a holy and pleasant resort for the living—the whole will present one of the most instructive, magnificent, and pleasant promenades in our country. From its immediate proximity to the capital of the state, it will attract universal interest, and become a place of healthful, refreshing and agreeable resort, from early spring, until the close of autumn.

To accomplish these two great objects, it is necessary that a fund should be created, immediately, sufficient for the purchase of the land, surrounding it with a substantial fence, the erection of a gardener's lodge, laying out the grounds, and preparing them for the purposes of an Experimental Garden and a Cemetery. That this can be done, your committee does not entertain a doubt, and respectfully recommend the adoption of the following measures, as best calculated to insure success. H. A. S. Dearborn,

For the Committee.

—

The committee to whom was referred the method of raising subscriptions for the Experimental Garden and Cemetery, beg leave to report:

1. That it is expedient to purchase for a Garden and Cemetery, a tract of land, commonly known by the name of Sweet Auburn, near the road leading from Cambridge to Watertown, containing about seventy-two acres, for the sum of six thousand dollars: provided this sum can be raised, in the manner proposed, in the second article of this report.

2. That a subscription be opened for lots of ground in the said tract, containing not less than two hundred square feet each, at the price of sixty dollars for each lot,—the subscription to not be binding until one hundred lots are subscribed for.

3. That when a hundred or more lots are taken, the right of choice shall be disposed of at an auction, of which seasonable notice shall be given to the subscribers.

4. That these subscribers, who do not offer a premium for the right of choosing, shall have their lots assigned to them by lot.

5. That the fee of the land shall be vested in the Massachusetts Horticultural Society, but that the use of the lots, agreeably to an act of the legislature, respecting the same, shall be secured to the subscribers, their heirs and assigns forever.

6. That the land devoted to the purpose of a Cemetery shall contain not less than forty acres.

7. That every subscriber, upon paying for his lot, shall become a member for life, of the Massachusetts Horticultural Society, without being subject to assessments.

8. That a Garden and Cemetery Committee of nine persons shall be chosen annually, first by the subscribers, and afterwards by the Horticultural Society, whose duty it shall be to cause the necessary surveys, and allotments to be made, to assign a suitable tract of land for the Garden of the society, and to direct all matters appertaining to the regulation of the Garden and Cemetery; five at least of this committee shall be persons having rights in the Cemetery.

9. That the establishment, including the Garden and Cemetery be called by a definite name, to be supplied by the committee.

Joseph Story.
Daniel Webster.
Henry A. S. Dearborn.
Samuel Appleton.
Charles Lowell.
Jacob Bigelow.
Edward Everett.
George Bond.
George W. Brimmer.
Abbot Lawrence.

Franklin Dexter.
Alexr H. Everett.
James T. Austin.
Charles P. Curtis.
Joseph P. Bradlee.
John Pierpont.
Zebedee Cook.
Charles Tappan.
Lucius M. Sargent.
George W. Pratt.

Boston, June 11, 1831.

Resolved, That the Report of the committee on an Experimental Garden and Rural Cemetery, be accepted and that said committee be authorized to proceed in the establishment of a Garden and Cemetery in conformity to the report which has this day been made and accepted.

INOCULATION, OR BUDDING.

This is commonly practiced upon all sorts of stone fruit in particular; such as peaches, nectarines, cherries, plums, &c. as also oranges and jesmines; and is preferable to any sort of grafting for most kinds of fruit. The method of performing it is as follows: you must be provided with a sharp penknife, or what is called a budding knife, having a flat haft (the use of which is, to raise the bark off the stock to admit the bud,) and some sound bass mat, which should be soaked in water to increase its strength, and make it more priable; then having taken off cuttings from trees that you propagate, choose a smooth part of the stock, about five or six inches above the surface of the ground, if designed for dwarfs, and for half standards at three feet; but for standards, they should be budded six or more feet above the ground; then with your knife, make a horizontal cut across the rind of the stock, and from the middle of that cut, make a slit downwards about two inches in length, so that it may be in the form of a T; but you must be careful not to cut too deep, lest you wound the stock; then having cut off the leaf from the bud, leaving the foot-stalk remaining, you should make a cross cut about half an inch below the eye, and with your knife slit off the bud with part of the wood to it, in the form of an escutcheon; this done, you must with your knife pull off that part of the wood which was taken with the bud, observing whether the eye of the bud be left to it or not (for all those buds which loose their eyes in stripping should be thrown away, being good for nothing,) then having gently raised the bark of the stock where the cross incision was made, with the flat haft or handle of your knife, clear of the wood, you should thrust the bud therein, observing to place it smooth between the rind and the wood of the stock, cutting off any part of the rind belonging to the budd which may be too long for the slit made in the stock; and having thus exactly fitted the bud to the stock, you must tie them close round with the bass mat, beginning at the under part of the slit, and so proceed to the top; taking care that you do not bind round the eye of the bud, which should be left open.

When your buds have been inoculated three weeks or a month, you will see which of them have taken; those which appear shrivelled and black are dead; but those which remain fresh and plump, you may be sure are joined; and at this time you should loosen the bandage, which if not done in time, will pinch the stock, and greatly injure, if not destroy the bud.

In the March following you must cut off the stock about three inches above the bud, sloping it that the wet may pass off and not enter the stock: to this part of the stock left above the bud, it is very proper to fasten the shoot which proceeds from the bud, and which would be in danger of being blown out, if not prevented; but this must continue no longer than one year, after which it must be cut off close above the bud, that the stock may be covered thereby.

The time for inoculating is, from the middle of June until the middle of August, (in America from the end of June to the end of August) according to the forwardness of the season, and the particular sorts of trees to be propagated; but the time may be easily known, by trying the buds, whether they will come off well from the wood or not. However, the most general rule is, when you observe the buds formed at the extremity of the same year's shoots, which is a sign of their having finished their spring growth.—*Forsyth on Fruit Trees.*

The editor of the Columbia (Pa.) Spy states, on the authority of a gentleman of that place, that a swarm of bees made, from the sixth to the thirteenth of June, a period of one week, fourteen pounds of honey.

MISCELLANEOUS.

CHLORIDE OF SODA.

The following article, extracted from Professor Silliman's Journal, may be interesting to every class of readers—we therefore transfer it to our columns. It is M. A. G. Labarraque's method of using the Chloride, and is translated from the French.

[*N. Y. City Gazette.*

Great advantages have been obtained from using the chloride very much diluted in water, for all the purposes of the toilet. In a dose of from 20 to 25 drops, it acts as a bracing and preserving wash, prevents the spread of herpetic eruption, and cures certain diseases of the skin.

For carbuncle the chloride of soda should be applied pure; but, in this case, it will be necessary to determine the real nature of the sores, it will be prudent likewise to recur to his experience.

Every person affected with a severe disease, or with sores of a bad character, vitiates the air of the chamber where he is confined both patients and attendants suffering from the unwholesome taints. This air may be purified by mixing a spoonful of the chloride with six spoonfuls of water in a plate, and setting it under the patient's bed: indeed, several plates of the diluted chloride may be placed in the same apartment, if necessary. In this way the exhalations will be destroyed as soon as they are produced. It will be necessary to renew daily the chlorated water contained in the plate, and turn it into the vessels where the clothes that are used for the dressings are soaked.

Whenever it is necessary to attend patients affected with contagious diseases, such as small pox and the like, it will be found very beneficial to wash the hands with water containing a twentieth of chloride, and apply to the nose a bottle containing some of it in a concentrated state. After handling the sick, it will be proper to wash again with the chlorated water.

In all places where there is a crowd of men or animals, whether sick or healthy, the air becomes corrupted, and acquires deleterious properties, owing principally to the animal exhalations. These exhalations may be destroyed by sprinkling the chloride diluted in from twenty-five to thirty parts of water; or by setting in these places (and they may be out of sight) some vessels containing the chlorated water which can never be the least injurious, whatever may be the quantity. This method of purifying the air is indispensibly necessary in lazarettos, hospitals, prisons, poor houses, manufactories, churches, seminaries, convents, halls of study, and dormitories in colleges and boarding houses, cabins of ships, court rooms, crowded theatres, saloons when filled to excess on great occasions, and the like.

Sprinklings of the chlorated water will be more especially necessary whenever an epidemic or contagious disease prevails; they should be made in order to guard against the deleterious influence arising from the neighborhood of marshes, the rotting of flax, hemp, and the like. They will likewise be serviceable in the disease of domestic animals, in places where silk worms are raised; finally, in all places where the air becomes charged with exhalations, which on being accumulated produce fatal effects.

In cases of asphyxia produced by the exhalation of vaults, sewers or any considerable masses of putrifying animal substance, it will be necessary for the patient to breathe concentrated chloride; and his chamber should be sprinkled with the chlorated water, so as to subject him to the influence of the disinfecting agent.

It is often necessary, sometimes from a tender and pious feeling of regret, to preserve for a long time the bodies of deceased persons.—A fœtid odor appears more or less readily, according to the temperature of the air, the state of the patient's body at the time of his decease, or to the disease that terminated his life. This decomposition may be suddenly arrested; indeed it may be prevented by sprinkling the body with some chloride of soda diluted in water. For this purpose, a bottle of chloride should be mixed with twelve liters or bottles of water; a linen cloth be wet in this mixture, and laid on the body, sprinkled occasionally with the liquid. In this way a corpse may be preserved indefinitely by a process, which will be made known elsewhere.

By sprinkling of water containing a fortieth of the chloride, one may disinfect, in a moment, the filthiest kennels, sewers and drains, vaults, slaughter-houses, markets for meat and for fish, manufactories for glue and for cat-gut, and generally all places that are infected with animal exhalations.

Butcher's stalls should be sprinkled, in the hot season, with the chlorated water, and by this means; the meat will be preserved for a long time unaltered.

In butteries, especially in the country, where it is often necessary to lay provisions for a week, the meat may be preserved, if care is taken to set on the floor a vessel containing some of the chlorated water, which it will be necessary to renew daily.—If the meat has become fœtid, a simple immersion in water containing a fortieth of the chloride, will neutralize the smell, and, after being washed in pure water it may be cooked and eaten without injury to the health.

THE FARMER.

Baltimore, Friday, July 1, 1831.

Horticulture.—We publish in the present number the Report of a committee of the Massachusetts Horticultural Society on the subject of an experimental Garden and rural Cemetery. The spirit with which that society pursues the object of its association is worthy of all praise. With an experimental garden, properly conducted, and the guidance of wise and undivided counsels, the society cannot fail of being extensively useful not only to Massachusetts but the whole union, and to the world at large. In this garden every new vegetable and fruit will be cultivated, and thence distributed over the state; its object is "to try all things, prove all things, and hold fast that which is good." Thus its advantages may be easily foreseen. Many new and useful things will be obtained which would have been beyond the means or the reach of individuals; and the expense and trouble of importations and experiments will scarcely be felt. This society has already done much towards improving the horticulture of the United States; but we foresee that it is destined to do much more. Though young in years, it has already taken the lead in adopting efficient measures for the improvement of horticulture. At present we in Maryland can only evince our hearty good will towards it by this mode of commendation; but we hope ere long to be able to go further, and while we approbate its spirit in words to imitate it by our works.

There is no part of America so favorable for a horticultural society as Maryland;—especially for a botanic garden, or one at least for experiment. A piece of ground amply sufficient for the purpose might be obtained at a trifling cost compared with the price of land in the vicinity of Boston. We have also important advantages in point of climate; and, indeed, there seems to be no obstacle to the complete success of such an establishment. While the comparatively small cities of Albany, Troy, and Rochester, have wisely followed the example of New York, Boston, and Philadelphia, in establishing horticultural societies, Baltimore remains in the back ground! Shall this be said of her much longer?

Gooseberries.—Our annual present of fine gooseberries from Isaac McKim, Esq. of this city has been received. As usual, the fruit is excellent, measuring from three to four inches in circumference, and of exceedingly rich flavor. We have also had the pleasure of seeing some very fine gooseberries in several of our public gardens, as a stimulant to the production of which we have no doubt the successful example of Mr. McKim has largely contributed. At Samuel Feast's garden, Frederick road, we saw several bushes, the fruit of which would measure full four inches. In its present improved state, the gooseberry is scarcely inferior to any fruit of the garden, and is only secondary to that of the orchard in consequence of its very brief season.

The Beaver (Pa.) Argus says—"From all that we can learn from different parts of the country, the labors of the farmer will be repaid by a rich harvest this season. All kinds of grain look extremely well; and will produce a larger crop than has been for some years."

FOREIGN MARKETS.

Liverpool Corn Exchange—*May* 24.

Our supplies of Grain this week have only been to a moderate extent, and as the dealers are generally low in stock, the rise in the duty to 10s8d per quarter, with the probability of a further increase next week, has caused more life in the trade than we have had for several of the preceding weeks, and fine Wheat, of which the quantity in market is small, has obtained an advance of 3d per bushel. In the lower quality there has also been more doing, some quantity of inferior Irish having been taken on speculation at about 7s per 70 lbs. American Flour still continues the leading article in the trade; we have had a steady demand for it from the dealers during the week; some parcels have also been bought on speculation, and an advance of full 1s per bbl. has been realized. There is very little demand for Indian Corn at present, and the stock of this article is fast accumulating. The attendance of this day's market, both for our own and distant millers, was rather numerous, and there was a pretty extensive demand for consumption of Wheat and barrel Flour, and the advance stated above was fully supported.

May 25.

There is no material change in the price of grain from yesterday's market.

London Corn Exchange, *Monday, May* 23.

The large quantity of foreign Wheat remaining for sale keeps the trade dull, but fine parcels of both English and Foreign have maintained last quotations, for other descriptions 1s to 2s per quarter reduction has been taken to effect sales. Upon the whole there is not so much Foreign Wheat shown as there was three weeks ago. The weather continues fine and dry, but the nights are cool.

Liverpool, *May* 27.

Since the 23d we have had no arrivals from your quarter, and only a few from Charleston and N. Orleans with cotton. Notwithstanding the arrivals of this article are kept on such a moderate scale by the long continuance of adverse winds, yet our market feels heavy and languid, and prices of American Cotton can scarcely said to be maintained. For the most part of this week the amount of business done has been very limited; yesterday, however, 3000 bags were sold, chiefly Brazil, 1000 of which were taken for export. Our Grain markets are firm, but prices do not mend much, and the business doing in Flour at present is in a retail way merely. Western Canal 35s 6d a 36s; Howard st. 35s a 35s 6d; a cargo of Philad. arrived three days ago, for which 34s was offered, 34s 6d would be taken. We had a confidential communication from London last night, that the duty to-morrow will be 13s 8d; the week's average being only 68s 5d. It is but too probable that the duty will be 16s 8d ere long. The weather still continues very fine.

Cropper, Benson & Co.

London, *May* 21.

It becomes very difficult to sell Flour, and it cannot be quoted higher than 33 a 36s as in quality duty paid. But we look for an improvement shortly, as the arrived is only sufficient for a week or two. Rice will not answer now.

Liverpool Cotton Market, *May* 26.

The sales of the week are 17000 bags, the prices of common American Cotton have declined 1-8d per lb. in the others there is no alteration.

Newry, *May* 19.

Oatmeal 14s 10d to 15s 6d per 112 lbs. W. Wheat 00s 0d per brl.; Red Wheat do; Barley, new, 7s to 7s 6d per brl; Flour, 1st, 22s; 2d, 21s; 3d, 20s; 4th, 7s per do; Oats 1s to 1s 1½d.

Prices Current in New York, June 25.

Beeswax, yellow 22 a 23. *Cotton*, New Orleans .10 a .12; Upland, .8 a .10½; Alabama, .8 a 12. *Cotton Bagging*, Hemp, yd. 18 a 20; Flax 12½ a 16; *Flax*, American, 7 a 8.——*Flaxseed*, 7 bush. clean .—— a .—— *Flour*, N. York, bbl. 4.75 a 4.87; Canal, 5.00 a 5.50; Balt. Hwd.st. 5.12 a 5.25; Rh'd. city mills —— a —— country, 4.50 a 4.62; Alexand'a, 4.50 a 4.75; Fredericksburg 4.37 a 4.50; Petersg. 4.43 a 4.50; Rye Flour, 3.50 a 3.75; Indian Meal, per bbl. 3.50 a 3.62; per hhd. 17.50 a 17.75; *Grain*, Wheat, North, 1.00 a ——; Vir. 90 a 1.00; Rye, North, 70 a 72; Corn, Yel. Nor. 66 a 68; Barley, — a —; Oats, South and North, .33 a .37; Peas, white, dry, 7 bu. 5. Beans, 7 bu. 7.00 a 8.00. *Provisions*, Beef, mess 8.50 a 9.25; prime 5.75 a 6.25; cargo 4.62½ a 5.00; Lard, 9 a .10½; Pork, mess, bbl. 14.50 a 15.25; prime 10.50 a 11.50.

J. S. EASTMAN,
No. 36, *West Pratt Street,*

OFFERS, at *Wholesale and Retail*, Hay and Manure FORKS, and Scythe SNEADS.—Also for sale, Grain CRADLES, and Cradle SCYTHES, Grass SCYTHE, English and American, with and without Sneads, Wheat FANS. Scythe STONES, &c. &c. Together with his usual assortment of PLOUGHS, and other AGRICULTURAL IMPLEMENTS, Garden Seeds, &c.

A fresh supply of FLOWER SEEDS, just received from the Messrs. Landreth's.

June 3.

WOOL WAREHOUSE.
LYMAN REED,
Commission Merchant, No. 195 *Baltimore street,*

Devotes particular attention to the sale of WOOL. Any consignments of the article forwarded to him for sale, can be disposed of immediately for CASH, at the highest market price.

CASH, and a fair price, will be paid for a few thousand pounds of *good wool*, (if offered immediately,) to supply orders now on hand.

Refer to Messrs. Cobb, Wyman & Co. Baltimore.

CASH FOR WOOL.

The subscriber is in this market as a purchaser of wool for eastern manufacturers, and will pay cash and fair market prices for every description of American wool. RICH'D MESSITER,
No. 5 Light street wharf, up stairs.
May 20. 2 m.

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General Agent for the State of Maryland, T. B. Brenan.

BALTIMORE PRICES CURRENT.

Baltimore Market.—Flour continues without change and dull, and the same remark applies to wheat. Indeed at this season there is generally very little doing in bread stuffs. Corn has declined; a lot of white having been sold yesterday at 60 cents. Yellow corn was sold yesterday at 61 cents. Rye has also declined a trifle, as will be seen by our quotation. Beef on the hoof has become plenty and a material decline has taken place. The market is now supplied with first rate beef, and at comparatively low prices, $6.50 being the highest price offered yesterday by the victuallers.

Tobacco.—Seconds, as in quality, 3.00 a 5.00; do. ground leaf, 5.00 a 9.00.—Crop, common, 3.50 a 4.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 10.00; yellow and red, 8.00 a 14.00; yellow, 14 00 a 16.00.—Fine yellow, 16.00 a 20.00.—Virginia, 4.00 a 5.00.—Rappahannock, 3.00 a 4.00——Kentucky, 3.50 a 8.00. The inspections of the week comprise 678 hhds. Md.; 72 hhds. Ohio; 2 hhds. Kentucky; and 3 hhd. Pennsylvania;—total 755 hhds.

Flour—best white wheat family, $6.00 *a* 6.50—super. Howard-st. 4.75 *a* 4.87½; city mills, fresh, 5.00 Susq. 4.50 *a* ——; Corn Meal, bbl. 2.25; Grain, Md. red wheat, 90 *a* 1.00; white do. 1.05 *a* 1.15, Susq. 1.05 *a* 1.09-Corn, white, 60 *a* —- yellow 61 *a* —-Rye, 65 *a* 67. Oats, .33 *a* 34. Beans, 75 *a* 80--Peas, 65 *a* 70—Cloverseed —— *a* ——Timothy, 2.00 *a* 2.50—Orchard Grass —— *a* ——-Tall Meadow Oat Grass 2.75--Herd's, 50 *a* 75-—Lucerne 30 *a* 37½ lb.——Barley, ——-Flaxseed —- *a* ——Cotton, Va. 9 *a* 9½-—Louisiana 10¾ *a* 11½ —Alab. 9½ *a*. 11—-Tenn.. 9 *a*. 10——N. Car.. 9 *a* .9½—— Uplaod 8 *a* 9½--Whiskey, hhds 1st p. — *a* 35—-; in bbls 36½ *a* 37-—Wool, *Washed*, Prime or Saxony Fleece 47 *a* 51; American Full Blood, 45 *a* 52; three quarters do. 53 *a* 58; half do. 65 *a* 75; quarter and common do. 14 *a* 15. *Unwashed*, Prime or Saxony Fleece, 36 *a* 40; American Full Blood, 34 *a* 40; three quarters do. 37 *a* 45; half do. 33 *a* 35; quarter and common, 30 *a* 33—— Hemp Russia ton, $255 *a* —; Country, dew-rotted, 6½ *a* 7½c. lb. water-rotted, 7½ *a* 8c.–Feathers, 33 *a* —-Plaster Paris, per ton, 3.75 *a* —, ground, 1.37½ *a* —- bbl.—Iron, gray pig for foundries per ton 33.00 *a* ——; high pig for forges, per ton, 28.00 *a* 30.00; bar Sus. per ton, 72.50 a 80.00.—Prime Beef on the hoof, 5.50 *a* 6.50—Oak wood, 2.25 *a* 2.50--Hickory, 4.25 *a* 4.50—Pine 1.75 *a* 2.00.

CONTENTS OF THIS NUMBER.

Prize Essays presented to the Manchester Agricultural Society, at the annual meeting held 28th September, 1830, No. II; An Essay on Cattle, by John Wright, Esq. of Chesterfield; from the British Farmer's Magazine for May, 1831—On the Value of R. K. Meade's Improved Short-horned Cattle—On the Management and Cure of Cattle Swollen or Hoven—Proceedings of the Massachusetts Horticultural Society at an adjourned meeting, held in the apartments of the Institution, on Saturday, the 18th of June, 1831, in relation to the establishment of an Experimental Garden and Rural Cemetery—Inoculation or Budding—Chloride of Soda—Editorial—Foreign Markets.

EDITED BY GIDEON B. SMITH.

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AGRICULTURE.

[The following excellent article on bone manure, is an abstract of the report of the Doncaster Agricultural Society of England. It has been politely furnished for publication in the Farmer, by the gentleman who received it from England. Whether or not it has been published in its present shape in England, we are not informed. The reader is also referred to page 354, volume 11, of the American Farmer, for further information on this subject.]

BONE MANURE.

The efficacy of bone on tillage, respecting which some contrariety of opinion still exists in different parts of the country, has been fully demonstrated by the judicious course pursued by the Doncaster Agricultural Association. A committee of that body was appointed in 1828, to make inquiries and report the result of them, on the use and advantages of bones, as a manure. And the method they adopted, as described in the report of the committee, recently published, may serve as a model for similar investigation. They prepared a list of queries, embracing every point on which the inquiry depended, which was submitted to the farmers throughout the whole extent of country over which the inquiry was to run, which was laid out into districts, apportioned among the different members of the committee, who undertook to distribute the queries and procure returns, and who were empowered to extend them as much further as they pleased. The committee was composed of Lord Allthorp, Mr. Duncomb, one of the members of the county, Mr. Wood, M. P. for Grimsby, and about ten other gentlemen; some of whom, as practical men, communicated their own replies to the queries, and thus was collected, what the committee characterise as "a valuable body of experimental evidence."

The report, which is extremely well drawn up, simple, perspicuous and methodical, is a condensation of the several facts, opinions and suggestions, furnished by the correspondents of the committee, from whence principles are deduced, in a very satisfactory manner. The fundamental maxim of the committee is, that "experience is the only guide, and theory and opinion useless." Nearly all the farmers are decidedly in favor of this species of manure, and although there is occasionally some apparent conflict of opinion amongst them on subordinate points, this discrepance is skilfully and in almost every case, convincingly traced to peculiarities, which do not at all affect the general principle, or impair the result at which the committee has arrived.

The degree of utility to be derived from this kind of manure, depends upon the different soils which vary not only in character, but on other particulars, such as moisture and quality, and upon its mode of application, as the particular stage of cropping it applies to, at what period of the year, and again whether raw, or after a process of manufacture, in what quantity and what size, and whether broadcast or drilled. A long continuance of experiments, under the eye of judicious observers, can alone afford a safe ground of conclusion, as to the efficacy of boning, and as to the proper methods, and "where a course of practice so long established as the use of bones, has furnished such an amount of experiments, all doubt" says the report, "may be at once discarded."

The returns, with only two exceptions, concur in stating the manure to be highly valuable, and on light dry soils, superior to farm yard dung and all other manures. Upon very thin sand land, its value is not to be estimated. It is not only found to benefit the particular crop to which it is applied, but extends through the whole course of crops, and even in the succeeding courses, its effects are visible in the improved quality of the land, and the efficiency of a smaller quantity than would at first have insured a crop. On dry lime stone, the results are equally favorable—on light loams it is preferable to the ordinary dressing of farm yard dung—in the heavy loams and clays the experiments are unfavorable. It is laid down as a necessary qualification in a soil for bones, that it should be dry. And the committee on this principle, consider that the clay soils are too moist to receive any considerable benefit from bone tillage. Upon peat soils, previously. laid dry, the advantages of bone manure are reported to be very striking; two unfavorable results corroborate the soundness of the principle just mentioned; the peat was moist. The effect of the manure on gravels is differently stated in different reports, but the same principle accounts for this conflict of opinion—a gravelly soil may embrace every variety of texture and quality, from the light dry sand, to the water-logged yellow clay, preserving in each the necessary admixture of stones and grit.

Striking testimony is furnished as to the durability of this manure, one farmer says, "on a field, part of which was boned 40 years ago, the crops were visibly better in that part for 15 or 16 succeeding years than the remaining part, although the land was all the same quality, and the part not boned was manured with farm yard dung." Another says, "about three acres of light sandy land was boned with 150 bushels per acre by mistake, and although it was as far back as 1814, the land has never forgotten it, but is nearly half as good again, as the other part farmed precisely in the same way, with the exception of one dressing of bones." A convincing proof of the utility of this kind of tillage may be deduced from the fact, that there is rapidly increasing demand for bones. "In no one return," observe the committee, "in answer to the query in our circular, do you continue to use them? has the answer been in the negative; the impression which is prevalent in our neighbourhood that he is not accounted a good farmer, who does not use them, is echoed from the Wolds of Lincolnshire."

The most valuable part of the report, consists of the practical details derived from the experiments of the farmers, who have used bones, regarding the time and manner of their application, upon which point some variety of opinion prevails, as might be expected amongst the committee's correspondents.

Like other kinds of manure, the proper effect of bones on the soil, depends upon their undergoing a certain degree of fermentation, this principle was discovered by some experiments of Mr. Horncastle, of Hodsack, who found that boiled and stewed bones were preferable to raw. The committee observe the principles thus developed, naturally leads us to another of great importance, which has been elicited by the practice of intelligent farmers, and like all principles developed by practice, the most certain and satisfactory from its having proceeded from no theory previously formed; it is the accurate observation of facts which leads to every practical improvement, and a classification of the facts proves the only and safe principle which pervades them.

The principle is the superiority of a compost of bones and manure, or other substances, over bones used singly, the effects of such a compost are stated, by some of our correspondents, who present them as their own individual conclusions, and a course into which they have been individually led by experience, without having had, as far as appears, any communication with each other. Such a coincidence, is too regular and marked to allow us to attribute it to any accidental circumstance, and the force of the concurrent testimony is so great as to leave no reasonable place for doubt.

The results of the inquiries proposed by the committee are shown in the following summary of their deductions from the details collected.

It appears that on dry lands, limestone, chalk, light loams, and peat, bones are a very highly valuable manure, they may be laid on grass with good effect, and on arable lands they may be laid on fallow for turnips, or used for any of the subsequent crops.

That the best method of using them when broad cast, is previously to make them up with earth, dung, or other manure, and let them lie to ferment.

That if used alone, they may be drilled with the seed, or thrown broadcast.

That bones which have undergone the process of fermentation are decidedly superior to those which have not done so. That the quantity should be about 25 bushels of dust, or 40 bushels of large, increasing the quantity if the land be impoverished, that upon clays and heavy loams it does not yet appear that bones will answer.

[☞ Mr. Jonathan W. Cragg, of Baltimore, has built a steam engine, and will immediately erect a mill for grinding bones, if sufficient encouragement be given. He is willing to engage bone dust at twenty cents a bushel, and will proceed in the business as soon as five thousand bushels shall be engaged. He will be able to deliver the bone dust by the 15th September, if immediately ordered. This is an opportunity for farmers to supply themselves with a valuable manure, which we hope will not be neglected. Orders may be sent direct to Mr. Cragg, or to the Editor of the Farmer, who will take pleasure in attending to them.]

(From the Edinburgh Quarterly Journal of Agriculture, No. 10, for 1831.)

DALE'S NEW HYBRID TURNIP,

BY MR. CHARLES LAWSON.

There are many varieties of the turnip in cultivation, which are more or less held in esteem, according to their supposed qualities, the nature of the soil in which they are to be grown, and other circumstances; but those in most general use are, the White Globe, the Red-Top Yellow Bullock, the Green-Top Yellow Bullock, and the Swedish or Ruta Baga. The White Globe grows to the largest size, arrives soonest at maturity, and decays earliest in the season; the Yellows are intermediate between the Globe and the Swedish in their properties; and the Swedish is smallest in size, is latest in arriving at maturity, and often does not decay, till, in the advanced state of the following spring, the plant loses its nutritive properties by pushing out a flower-stem; hence the Swedish is well adapted and chiefly employed for spring feeding. The Swedish turnip possesses the greatest nutritive powers, and the largest of this variety yields more nourishment in proportion than the middle-sized ones; while the Globe, which attains the greatest bulk, contains the least nutritive matter, and the larger kinds proportionally than the middling sized ones of the same variety.

New varieties or hybrids of turnips are obtained by cross impregnation. Thus, when two varieties are planted alternately or promiscuously in a plot of ground, when they come into flower, the pollen is wafted by the wind indiscriminately over the whole, or carried from one plant to another by insects, when they are in quest of the sweets of the nectary, and applied to the stigmata. But though the means of producing new varieties are simple and easily accomplished, little improvement in this respect has been made in the varieties now generally used in field culture.

In all cases of turnip seeds going through my hands in the course of a season, I keep specimens, which are sown at the proper period in drills in my nursery. This is done for the purpose of examining the progress of the plants and the development of their roots during the season; it also enables me to ascertain the correctness of the different stocks of seeds, and to judge of the superiority of one variety over another.

Two years ago my attention was particularly attracted to the produce of the sample of a hybrid or doubly-impregnated sort, the seed of which I received from Mr. Robert Dale, a very intelligent farmer at Libberton West Mains, near Edinburgh. It attracted my attention, first, on account of its early growth and maturation; secondly, its fine shape; thirdly by the great size to which it attained, in comparison with any sort under similar treatment; and, lastly, by its standing the winter equally well with any other turnip except the Swedish.

And conceiving that the great desideratum in the selection of a proper variety of the turnip, is to obtain the greatest possible weight on a given space and at a given expense of manure, this variety seems to be more adapted to this end than any other sort hitherto introduced.

The manner in which it was obtained by Mr. Dale, was the following: in the year 1822 or 1823, he got a few ounces of seed of a new hybrid turnip from James Shireff, Esq. of Bastleridge in Berwickshire. This, Mr. Dale sowed, and he found the produce to resemble the Swedish in shape, but it had too few of the superior properties of that variety. He, therefore, picked out such as had most of the yellow appearance, and planted them along with some of the best Swedish which he could find. This he continued doing for four successive years; and, since that period, he has selected the best roots of the double impregnated kind which he could find for raising seed, till they have attained the quality which they now possess.

The manner in which this variety has been obtained is not according to the nice rules which horticulturists would adopt, because, the hybrids were always planted along with the Swedish for producing seed, and the seed collected promiscuously, that part of the seed which was produced from the Swedish would be much more nearly allied to that variety than the seed of the hybrids. But in this, as in many other instances of improving plants, the point is often attained more from accidental causes than from the adoption of the rules laid down by scientific cultivators. And, although all the hybrids may not stand in the same relation to the primitive root, the circumstance of the raising the seed being now performed solely by the hybrids themselves, without the assistance as formerly, of the Swedish, will always have the tendency to assist in modifying and correcting any irregularity that may exist. Indeed, judging from the appearance of the present stock, there is nothing which indicates any important consequences to this irregularity in the manner of obtaining the hybrids.

The following comparison will show in what respect this hybrid is superior or differs from the turnips at present in cultivation:—

For Early Use,—White Globe, White Tankard, Pomeranian Globe, Hungarian Globe. The hybrid is equal in size to any of these, is closer in the texture, and is as early.

To succeed the above,—Red Norfolk, Green Norfolk, White Norfolk, Green Globe, Red Tankard, Yellow Globe, Bullock's Heart. The hybrid is superior in size, in texture, and in shape, to all of these.

To follow these,— Purple-top Yellow Bullock, Green-top Yellow Bullock, Tankard Yellow. The hybrid is superior in size, and, in so far as it has been tried, it stands the winter as well.

For late use,—Purple-top Swedish, Green-top Swedish. The hybrid is superior in size, but shoots to flower earlier in spring, and is not so hardy.

This hybrid, or doubly-impregnated turnip, therefore, appears to possess properties in general superior to those varieties which have been enumerated above. It is equal to, or surpasses the yellow and the other sorts above it, and is only excelled by the Swedish, in the latter being more hardy, and later in spring in running to a flower-stem. It is now generally known by the name of Dale's Turnip, or Dale's hybrid.

The facts which I have stated will, I trust, be considered in this respect interesting, that they show an easy method by which intelligent agriculturists may increase or improve the varieties of the plants which they cultivate.

Seeds of the above turnip have been furnished to Messrs. G. Thorburn and Sons, No. 67 Liberty-st. New York, by Adam Ferguson, Esq. of Scotland, who is now travelling in the United States with a view to obtain information on the state of our agriculture and horticulture.

WEVIL, &c.

Mr. Smith: *Scotland Neck, June* 27, 1831.

I have seen in the Farmer, a number of communications about the wevil; as I differ with them all, I have often thought of giving you my opinion on its origin; but being advanced in years, and not much in the habit of writing, only when compelled by business, I have put it off, promising myself at some future day to make the communication; fearing I may still neglect it, I will give you one reason why I differ with all the writers that I have seen on this subject. They all say the egg is deposited by some insect in each grain while in a soft state, if this is true, I should like to know how the insect makes its way through the husks or shuck of corn when it is 5 or 6 double, in such manner as to lay them in each grain? I think all will agree with me, that it is impossible; then how does the egg get in each grain? it must be the natural production of the grain, or some insect deposits something on the bloom or tassel, and it is scattered through the pollen to each grain, for each grain has its silk. Get any of your friends to gather an ear of corn this fall, with all its husk on, put it in some place where no insect can get to it until next spring; then take the husk off and suspend it with any covering that will let air, moisture, and heat get to it; I will warrant the wevil will hatch and come out. These hints if attended to by some of your numerous and well informed readers, will enable some of them to do more justice to the subject than I can myself.

Governor Branch, late secretary of the navy, was so good as to send me two boxes of the sugar cane that he had procured from Malaga; I am fearful it arrived too late to make a fair experiment; I planted it on the bank of the Roanoke river the 28th May; it came up tolerably well; some of it is now nearly two feet high. In the fall I will let you know how it has succeeded. Wm. R. Smith, Senr.

(From the New York Farmer.)

On Chess or Cheat, in answer to C. F.

At present, I have only time to make the following extract from the Florula Cestrica, written by Dr. *William Darlington*—formerly member of Congress, Canal Commissioner of the state of Pennsylvania, &c.—an eminent botanist, who, for nearly 30 years, has included amongst his studies, the plants of our country; and whose opportunities and researches entitle his opinions on these subjects, to great respect. D. T.

"This *foreign* grass is an unwelcome intruder among our winter grain. Some few of our farmers still entertain the *old, absurd notion,* brought hither by our ancestors, concerning *the transformation of plants;* and contend that this grass is in reality, nothing but corrupt or *degenerate wheat*—the change being effected, as they allege, by unfavourable seasons, or soils; excessive portions of certain manures; or being closely eaten down by cattle; and other accidental causes. It is a curious circumstance, in the history of *this vulgar error,* that in former times, the benighted peasantry of Europe, imagined wheat was converted into cheat, in poor soils, by *regular gradations:* that the *first* change was into *rye,* then from rye to *barley,* from barley to *lolium,* and from lolium to *bromus,* or cheat. They even thought it descended one step lower, by passing from bromus to *avena* or oats! It was also supposed, that by the agency of a fertile soil, it could be brought gradually back again to its pristine state. In this country, however, the disciples of the doctrine have spiritedly abridged it, by discarding all these intermediate stages of transmutation, as mere surplusage! They insist, that the change from *wheat* to *bromus,* is effected directly and *at once.* So prevalent was *this strange conceit* prior to the time of Linnæus, that a serious essay was written under the auspices of that great man, and published in the fifth volume of the *Amœnitates Academicæ,* for the express purpose of exploding *the absurdity.* At the present day, *the prejudice* is confined almost exclusively to the illiterate and blindly credulous, who are exceedingly prone to adopt opinions in such matters without due examination,—and to maintain them with an obstinacy admirably proportioned to the lack of rational evidence."

GREEN MANURE, &c.

Wilmington, Del. June 24.

We are not acquainted with a more beautiful country, or one of which, of late years, exhibits more visible signs of substantial, as well as ornamental improvement, than that district, lying about three or four miles from our borough, in the direction of the Brandywine Springs, generally known by the name of Oak Hill. Nature has kindly bestowed upon this tract of country all her gentler beauties: an undulated surface, pleasantly diversified by hill and dale, upland and meadow, and finely watered with pure and copious streams, running in almost every direction. The farms in the vicinity generally show the influence of a laudable spirit of enterprise, judicious industry and taste—substantial barns, good crops, clean tillage, constantly meet the eye—and the scene is agreeably enlivened by numerous enclosures of neatly trimmed hedges of Virginia and New Castle thorn. The establishment of the Brandywine Springs has rendered this part of the country more familiar to our citizens than formerly;—the excellence of the roads and the attractions of an improving country make it one of the pleasantest rides in our vicinity. We were much gratified by a visit, on Tuesday last, to Woodside farm, the residence of Samuel Canby, Jr. situated in this neighbourhood, between three and four miles from this borough. We spent a couple of hours in walking over the farm and looking at the arrangements. The farm is between 180 and 190 acres, and, under its present course of improvement, promises, in a short time, to be one of the most productive, as it is one of the most beautiful, in our state. The extensive farm yard struck us as a model of utility and convenience—the capacity and general arrangement of the out-buildings, including the barn and sheds—the mode of dividing the horses and cattle into different yards, each of which is supplied with water by a horse power, which is also applied to getting out the grain, wheat, corn, &c.—altogether constitutes the most complete farm yard that we are acquainted with, and well deserving the inspection of farmers in this age of agricultural improvement. Mr. Canby has directed his attention particularly to the rearing of a dairy stock, for which the character of his farm, which is finely watered and has abundant meadow land, furnishes peculiar facilities. His stock is already considerable, and among them we saw some remarkable fine animals, of the Teeswater, or short horn Durham breed. Albeit, unskilled in flocks and herds, we could not fail to notice and admire the features which distinguish this foreign species of the milky tribe from our native stocks—the small head and neck. short horns, fine outlines and magnificent udders, from whose bountiful source so many of our comforts and luxuries flow. In the course of our walk, Mr. Canby pointed out three fields, one of which was then covered with a luxuriant crop of clover hay, that had just been cut. He stated that these fields had, in the course of two years, been brought to their present flourishing condition, by the aid of lime and green manure alone. As it occurred to us that a knowledge of the method by which this effect was produced would be useful to our farmers in those parts of the country where stable manure is not to be obtained, we here record the process adopted by him. In the autumn of 1828 he selected these three fields, which were worn out and exhausted by previous cropping. After ploughing, thirty bushels of lime were used to the acre, and the fields were sown with rye. Late in the succeeding May, the rye was ploughed in, thirty bushels of lime per acre again spread on the land, and two bushels of corn sown broad cast. In the early part of September the corn was rolled down with a heavy roller and ploughed under; harrowed immediately after ploughing, sown with wheat early in October, and harrowed in. The crop of wheat, after this preparation, was nearly equal to that produced in the fields prepared with stable manure. One of these fields, brought, by this process, from the lowest ebb of sterility, in the brief period of little more than two years, was, within our own view, as we have observed, covered with a heavy crop of grass just cut; and the other two furnished abundant pasture for all the stock of the farm! We would invite our agricultural friends, in the middle and lower parts of this state, when stable manure is not easily obtained and green manure is accessible to all, to try this experiment. Let a farmer set apart, for this purpose, five or ten acres—if stone lime cannot be had, shell lime probably can; use double the quantity of this. The expense, we are assured, is trifling, compared with the price of stable manure, even where it can be had, and that expense will be paid by one or two crops.

We observed Mr. Canby's reapers engaged in a fine field of wheat. The season is unusually early; but, in this case, something is to be attributed to the seed, which he obtained from Virginia—the early white wheat. This field was so much advanced, that it was fully ripe enough to have been cut the preceding week.—*Delaware Journal.*

NEW SPECIES OF OATS.

The avencea frina, or true skinless oats, is the most valuable crop perhaps ever produced in this empire. It was grown in the season of 1830, for the first time it was ever produced in Great Britain, by T. Derenzy, Esq. of Globeman Hall, who obtained the seed through a friend of his at Rotterdam, whither it was imported from Samang, a remote district in China; and was unknown to the Europeans until within these three years. The advantages which these extraordinary and valuable grain possesses over all other kinds of oats are numerous, viz: when thrashed from the sheaf it is exactly like oatmeal, and is fit for immediate use for culinary purposes, and every other for which oatmeal is consumed, the grain being quite free from any particle of rind or husk. The flavor is delicious, and it contains much more farinaceous matter. There is of course, a considerable saving of oats, and expense of kill-drying, grinding, sifting, &c. and one peck of it contains more nutricious food for a horse than three pecks of common oats. The produce is most astonishing, the average twenty-six barrels or fourteen tons to the Irish acre—the exact quantity grown by Mr. Derenzy on one acre. It was not sown till the 4th May, and reaped early in August the same year. It is remarkahly hardy, and well adapted for this climate.—*Essex Stand.*

Dodecatheon Meadia,—The American cow slip and hawksbill, is profusely scattered over the high banks of the Conestoga. The roots spread rapidly by culture, and by transplanting them in the garden in the ensuing spring, the cultivator will be repaid by their beautiful purple flowers.

To be truly rich you must not increase your fortune, but retrench your appetites.

HORTICULTURE.

CULTURE OF THE VINE.

The following observations on the culture of the vine, are extracted from a little work lately published in New York, entitled "Our Neighborhood," containing many excellent practical directions, and ingenious speculations respecting the art of horticulture. In speaking of this work, the New York Evening Post says, "it contains nothing of compilation; the knowledge it communicates is gathered fresh from the observation of nature—the precepts it conveys are transferred directly from practice in the garden to the pages of the book. It is a good omen for any art when such minds occupy themselves in its improvement. Horticulture has come to be regarded as a liberal pursuit,—as a subject worthy of the attention of cultivated understandings and benevolent hearts. It is no wonder that under such auspices it should improve as it has done for a few years past, to such a degree, that a person on going into our markets now, and comparing them with those of ten years since, might almost think that the climate had changed."

Monday, Nov. 1st, 1830.—I began this morning to open the earth around my grape vines; young Haywood remaining with me to show me the way that succeeds best with him. He spent Sunday with me, and I find him quite a sensible man. He says that he has tried every method suggested by the experience of others, and yet he does not consider himself as successful in the culture of grapes. Dr. Bently has a great many grapevines, and takes uncommon pains with them; yet, unwilling as he is to own it, he had but a few bunches that ripened well this autumn. He insists on it that grapes should be trained up high, like his, over a trellis that has an open roof; and certainly the only fine bunches he had were there: but really the expense of all this post, rail and roof work, is rather out of proportion to the quantity of grapes thus raised. I found a short grape walk, well stocked with grapes, on my farm. They bore this year, for the first time; and although the mildew was very destructive, and the vine-fretter and curculio destroyed the leaves, yet I had here and there a good bunch, which enabled me to judge of the value of the different kinds.

After opening the earth around the vine, I scraped off all the loose bark, and little knotty roughnesses, which one usually sees on a vine near the ground. I cut off what are termed day-roots,—those small roots which proceed from the stem near the surface of the ground. After this operation, I whitewashed the whole stem, even covering the eyes of the buds; I then bent the stem down and fastened it strongly, a few inches under ground, by means of a forked stick; lastly, I drew the earth up to the stem again, and tied a wisp of straw, or rather laid a bunch of straw, on each plant, throwing dirt on the edges to prevent the wind from blowing the straw away. Haywood says that I shall have finer grapes next summer, than my neighbors; but the doctor shakes his head. Every man has a pet method of raising grapes; but I fear that I shall have to give the matter up. The truth is, that the vine does not bear well more than once or twice, excepting in cities: there the frost and dew, both so hurtful, are kept off, by the constant agitation which the smoke and dust causes among atmospheric gases, and by warm enclosures. It must be that the difficulty lies with the bark of the old wood, as well as with the roots, which run deep in the ground. Young Haywood thinks this may be the case; for when he binds the old stump entirely down under ground, and only allows the new wood that shoots out from the buds to appear above ground in the spring; and at the end of two years, if he separates the *layer* from the old root, the crop of grapes is free from mildew. I did not see his grapes last year, when he made the experiment, but I hear that he had the finest grapes in the country. This summer he gave up the grapevines to his youngest brother, who chose to let them run up over a trellis, after the manner of Dr. Bentley, having refused to cut them off, as his brother Andrew advised. I find that great care is necessary during the season of blossoming, as the frost is very apt to injure the flowers and young leaves. Straw mats, set up before the vines every evening, when frost is apprehended, will effectually prevent it.

What volumes have been written on the subject of the vine!—and yet we are no nearer the true mode of raising grapes than we were before a line was written. There are certain things, about which there can be no mistake. Give a cabbage a good deep soil, and it will never disappoint us; do what we will with a grapevine, it is subject to so many casualties, that we can only expect a crop once in six years. I find that in the middle states, the grapes which succeed best are the yellow, amber-coloured, or golden chasselas. It may be known as soon as the tender leaves put out at the extremities, they being of a copper or deep fawn color. The next best is the black cluster—a small, tight-bunched grape. The extremities of the leaves are a grey, or sage-colored white, the under side of which is woolly. Neither of these grapes is subject to mildew; but excess of heat or cold, moisture or dryness, very materially injures the berries.

Whatever the cause may be, it certainly is a fact, that vines do not fruit well after they are four or five years old, excepting in cities, or in warm, *small* enclosures. When this important truth is known by persons who are accustomed to solve difficulties, we shall learn whether it be within the compass of ordinary skill to remedy the evil. What causes this mildew? This is a secret which is yet undiscovered. As far as my limited observation extends, I ascribe it to obstructed perspiration, and to the ascent of too much of the watery particles of the sap. The malady makes its appearance when a few hot days have been succeeded by cold nights, or when a moist atmosphere has been followed by excessive droughts. Exotic plants suffer very much from the changeableness of our climate; nay, the grapes even of our southern states are materially injured when transplanted to a colder region. The Isabella grape, for instance, during the long drought of this last summer in the middle and northern states, was both mildewed, and exceedingly sour and worthless. There is a very remarkable circumstance about grapes, which is, that a certain degree of humidity in the atmosphere is necessary to develope the saccharine principle. Whereas in other fruits, such as apples, pears, and peaches, although a drought materially injures the size and aromatic flavor, yet there seems to be a concentration of the *sugary* juices. It would appear therefrom, that the ductile vessels of the vine require a certain quantity of external lubrication to correspond with the rapidity of the circulation of sap within.

I know that you are very anxious to get all the information you can on this subject. I shall give you from time to time, as you have desired, whatever new matter may occur. I have intelligent neighbors, all cultivating the grape, and striving to outdo each other. We have an excellent market for fruit, and this, you know, is a great stimulus.

There can be no doubt but that all persons who raise grapes have a strong desire to succeed in the culture of them, and yet how few are successful! Two years of good bearing, and the beauty and value of the plant are gone. It is either seen trailing on the ground in mutilated branches, or it hangs slovenly over a trellis, or a confined arbor, with branches, tendrils and twigs interlacing each other—a dense mass, impervious to light and heat. The few bunches which hang underneath are sour and watery, and in two or three years the vine is a mere nursery for caterpillars and other vermin.

But the most provoking part of the whole history is, that no one tells the truth about grapes. I allude as well to those persons who raise plants for sale, as to those who pride themselves on great horticultural knowledge, and cultivate them for pleasure. I am perfectly amazed at the reluctance which is felt by almost every man to acknowledge that his grapes are mildewed. I have seen men of the strictest integrity in ordinary matters, so mortified at the failure of a crop, that they have resorted to every species of prevarication to deceive. I went with Dr. Bently one day in September, to see a neighbor of Mr. Grant, who had a fine grapery, and who prides himself upon his knowledge of the art of culture. We went in unexpectedly, and at the back gate too, and there we caught our worthy friend with a basket on his arm filled with mildewed grapes!

We were well aware of his sensibilities, so we did not cast an eye on the basket, which he quickly deposited in a root house, muttering something indistinctly about gathering grapes for a sick friend. Notwithstanding that nearly half a bushel had been cut off, enough still remained to show that mildew had been very busy there. Whenever he came to one of these blighted bunches, if he could not nip it off and throw it over the fence unobserved, he would say, "a bunch or two slightly affected, as this is, does not injure the vine---I think myself very fortunate in having escaped so well." And when I observed that the leaves of the grapevine were seriously injured this summer by the insect called the vine-fretter, he shifted the conversation by taking us to a favorite vine near his house, which being in its fourth year was in full bearing and was really beautiful. Here his pleasure was extreme, for he could breathe freely while we regaled on the delicious fruit, which was a white Lisbon. There was no mildew, no vine-fretter, no curculio, no rot of any kind, and we could admire both the beauty of the grape and the liberality of our host, who cut off bunch after bunch with greater pleasure than he abstracted those which were mildewed.

Mr. Thorn trims his grapes according to the French mode---two buds this year, four the next, and so on. I shall follow young Haywood's mode, for this year at least, and if I do not succeed, then I must give up the culture of grapes. The approved mode here is to plant the vines six feet apart each way, if for a vineyard, or if for a walk, five feet is not thought to be too near together. One thing I was instructed in, and that is quite essential. This is, never to put a grape vine or any plant by a post. In a few years the post rots, and then the vine or plant will be injured by the process of putting in a new one.

Dr. Bently has a grape walk of about two hundred feet in length; the posts of the trellis are made of white oak, five inches square at bottom and four by two at the top; the length is about eight feet, two of which are under ground. My trellis, which was made in a similar manner, has been cut down, leaving only four feet above and eighteen inches under ground. The laths or slats are divided on the posts equally, being three in number. The proper time for felling trees for posts or timber, is in August. Whatever is thus cut should be left to season for a year, and then taken to the saw-mill. When sawed in suitable pieces, each piece should be charred at the bottom just so far as it is to be sunk in the ground. Posts cut and charred in this way, will last for twenty years; but unless the wood is cut in August, and seasoned for a year in some dry place, it is worse than useless to char them. It has been ascertained that when unseasoned timber is charred, the rot takes place much sooner than if left without charring. The timber from full grown trees lasts longer than that from young saplings, even the limb of an old white oak will be of longer duration as a post, than one of the same size of a young tree.

You and I used to discuss the subject of the rise of sap in plants. I should like to refer to it minutely, as it is so connected with the above remarks. I have of late gathered some new hints from one of our intelligent savans, and in the course of a year I may have occasion to speak more fully on this topic; meantime I must continue my remarks on grapes.

I think it far better to manure vines in the autumn. as the rains wash the fertilizing principle to a depth on a line with the roots,—where it lies inactive until the return of spring. As soon as there is sufficient warmth to enable the sap to rise, the spongelets at the roots are excited to action, and can receive the decomposed particles which the gases now forward to them. If manure is applied in the spring—and I am speaking of partially rotted manure---the gases, which at this stage of the decomposition are very active, carry off the volatile particles before they can reach the roots. All perennial plants should be manured in the fall. The ground intended for all plants with roots running deep in the ground, should likewise be manured in the autumn, and those with roots near the top, should be manured in the spring. But let me go on to speak of grapes.

However perfect our system of cultivating the vine may be, it is of no avail, unless we can conquer the two great evils to which it is subject, namely, the mildew and the vine-fretter. I do not know which is most destructive to the crop. The former has an *immediate* effect on the bunches of grapes, and the latter on the leaves, which, of course, ultimately affects the grapes; for, as it is well known, that the leaves are the respiratory organs of a plant, it must be presumed that whatever injures them, will have an effect on the plant itself. As to the mildew, which is a fungus arising from the union of the rejected secretions of berry and atmospheric depositions, it is undoubtedly owing to the sudden changes in the weather, that it is so destructive; there is no way of preventing the disease, but by guarding against these changes; such as shading the plants during the hottest part of the day, and covering them at night, if it be unusually cold. The circulation of sap in the vine, owing to its organic structure, and to the great increase and deep sinking of its roots, is very rapid; and in the spring of the year particularly so---of course the perspiration must be in great abundance. If this be suddenly checked, as is the case in cold nights, after very hot days, or, in fact, after a succession of cold days, at the period when the berries are formed, the pores are closed, and never after recover sufficient tone to be enabled to eject the secretions, or to slough off the unwholesome depositions of the atmosphere. What this mildew is I cannot say. I have not been able to dissolve it, either in acids or alkalies. When it first appears, it lies like white frost on the berries; but after a day or two, it becomes a toughly connected film, inclining to brown as the season advances. It is not the berries alone which are affected by the obstruction; the branches and stems likewise dwindle, and look diseased; they are freckled in irregular spots, and become stinted in length and size.

The vine-fretter is a very small insect, not larger than the seed of Madeira lettuce,---which it somewhat resembles in color and shape. It multiplies very fast. and is not affected by heat, cold, drought or rain. I have not yet been able to find out where it deposits its eggs; as soon as I do, I will make some attempts to destroy them. One would think that it could not be in the power of such insignificant insects to injure the health of a large plant, but that this is the case, we have only to look at the shrivelled appearance of the leaves. These insects are never seen on the upper surface of the leaves, nor do they rest for more than a second on the under part. The very moment we touch the leaf, they jump off either to another leaf or on the ground. The male is larger than the female, and is different in colour and marks, having horizontal stripes on its back, and being of a pale green colour. In two weeks from the time they commence their operations on the leaves, the healthy, lively, appearance of the plant is gone; the bunches of grapes hang flaccid and lifeless from the stem, and the berries have no flavour. I have not yet ascertained whether the curculio, another insect, of the beetle tribe, punctures the berries of the grape; but I know that they injure the leaves quite as much as the vine-fretters do. These curculios, (or curculiones) commence their work of destruction about a month earlier than the vine fretter; and this year, but for my vigilance, they would not have left any part of the leaf untouched. I found that each leaf had a number of round holes in it, about the size of a very small pea, and I concluded for several days, that the *leaf-bee* had made the perforations; but independently of the fact, that the leaf-bee cuts a semicircular piece from the edge of the leaf, on closer inspection I saw that a much smaller insect was at work. The curculio which I detected on this grape-leaf, is different both from the one which stings the pea, and the one that stings fruit. It is however more nearly resembling the pea-bug, or rather pea-curculio, having no proboscis. The curculio which commits such ravages on fruit, has a long proboscis rising immediately from the thorax, with two feelers originating at the extremity of the proboscis, and which, in a state of rest, lie close to it. These insects are scarcely the third of an inch long; they are of an oval shape, having wings which enable them to fly from vine to vine, while those that destroy the fruit are capable of flying from tree to tree.

I said that I did not know whether they injured the berries of the grape; this doubt arises from the circumstance of my having but very few grapes this summer, the cold was so intense the last winter that nearly all the grapevines in my neighborhood were frozen at the roots. Of course, not many grapes could be expected this season, as the whole growth of the vine has proceeded immediately from the roots. The cold, which was so severe upon the vine itself, did not injure or decrease the number of insects, for never have they been seen in such numbers.

Both Dr. Bently and young Haywood say that they have never seen a curculio on a grape-leaf before, and they both agree likewise in asserting that the pea-bug, and the curculio which perforates the grape-leaf, are the same insect. They certainly resemble each other very much; the greatest difference is in colour and marks—the pea-bug is generally one shade of colour—a dusky gray black, whereas the other is of a dusky brown black, with brown spots across the back. The one which stings the fruit is of a uniform dusky gray black, having, as I before observed, a long proboscis with feelers at the extremity; whereas the feelers of the curculio which perforates the grape-leaf, and that which inhabits the pea, proceed from the thorax.

Although these insects are known in Europe, yet no regular notice has been taken of them. De la Quintinye, one of the ablest horticulturists, and head gardener to Louis 14th, speaks of preferring some kinds of plums to others, "because they were less liable to be stung by the insect," but he never describes the insect itself. I suspect that they are not so destructive either in France or England as they are in this country. The very instant that we approach the vine or tree, these little creatures drop off as if they were dead, and as they make their legs (six in number) lie close to their body, it is very difficult to find them on the ground. In fact, if we do not see them fall, we may look for them in vain.

I observed that vines of two and three years of age, bore the last hard winter better than either older or younger ones. In fact, those that were set out the year before, all perished, and the older ones died down to the roots. Even those vines which were buried deep and were well protected from frost by means of salt hay and manure, fared no better than the rest, for although the vines did not die down to the ground, yet the young wood shot out very feebly from the eyes, and bore no grapes. On the three year old vines, however, I had several fine bunches, and what was very remarkable, some of them were the white Frontignac, a very delicate grape--and without doubt the finest grape in the world.

Mr. Thorn had the charge of my farm for the last year, being connected with the former owner. He took great pains with my grapevines, and having furnished all the plants, he was able to tell me their names, of which he kept a list. He has a hearty contempt for the native grapes, and thinks that no culture will improve their goodness, although it may increase their size. He pointed out to me the common fox-grape, in a hedge, loaded with fine purple grapes; from which, several years ago, he took a cutting. He planted this cutting against a south wall, in a very rich, sandy loam, where it grew luxuriantly; the third year it bore immensely large berries, twice the size of those of the parent vine. From this *cultivated* vine he took three slips—one he grafted on a red Hamburgh---one on a white Chasselas, and one on an Isabella. The grafts, he says, took finely, and he expected great results, for he was at that time ignorant of the fact, that the stem of the vine did not impart any of its own peculiar nature and character to the graft.

The fox-grape grafted on the red Hamburgh, grew ten feet the first summer; the one on the Chasselas dwindled and died before the summer was over; the one on the Isabella grew *twenty-one feet!* The second year they both bore grapes. The one grafted on the red Hamburg had a few small bunches, with large berries; the one grafted on the Isabella had a dozen fine full bunches, with berries the size of the original wild grape, but neither of them had lost any of the fox taste, or the tough astringent pulp.

It has been several times proposed to graft fine imported grapes on native stocks. Many persons have tried the plan, but have reaped no benefit. The common fox-grape, hardy as it is, imparts none of its hardiness to the foreign grape which is grafted on it. If it be a black Hamburgh, or a Malaga grape, the mildew and red rot will attack it quite as soon, and as unresistingly, as if it grew on its own stock. This proves, beyond a doubt, that the sap-vessels transmit the sap to the different parts of a plant, in proportion as the parts are adapted to receive it. If a white Frontignac be engrafted on a common fox-grape, the roots do not separate the aliment which is presented to them, so as to suit the nature and wants of the two kinds of grapes. The nutriment rises with the sap, and each part of the different grapes abstracts from the rising fluid such portion of it as is adapted to its use. It is therefore in the organic structure of the plant that we must look for the cause of the phenomenon.

We are told that after submitting any section of a plant to the different chymical analyses, every part of it can be reduced or altered, or made to disappear, excepting that portion which is called *fibrine*, which, when all the other parts have been abstracted, is the residum. It is perhaps owing to the peculiarity of this fibrine that the difference in plants is so perceptible; and that although a very intimate connection may take place between two plants by means of budding or grafting, yet no further union can occur than what is seen in the regular continuity of sap vessels. The bud which we insert, however, only adheres by a glutinous ligament, which unites the under part of the bark of the bud, to the wood of the limb in which it is inserted.

But a crowd of matter rushes upon me at once, and you are in danger of having a long treatise on the physiology of plants before you are ready to hear it. I must therefore, for the present, turn to the practical part of my subject, and tell you that if you set a good cutting of two feet length in the place where you intend that a grape shall grow, it will take root and thrive better, and bear sooner, than if you plant a single eye, or even if you put a rooted yearling there. A *good* cutting is that which is taken from the vine nearest to the stem. It should in all cases be two feet long, as the droughts of summer and the frosts of winter are very hard on rootless plants. The branch of a very thrifty vine, which is three or four years old, will often grow to the length of fifteen feet. I have at this moment the branch of a red Muscadel, which is twenty feet long, the growth of one year; and yet, healthy as the vine is from which I intend to cut this branch, I shall not take more than two cuttings from it, and those I shall get from the part which was attached to the vine. All above these are good for nothing, as the wood does not come to sufficient maturity. Mr. Thorn says that nursery men are not aware of this circumstance, and therefore often lose a great many yearling grape vines in consequence of laying down cuttings of unripe wood.---*Our Neighborhood.*

RURAL ECONOMY.

Power of Silkworm Moth Eggs to Resist Cold.

Mr. Smith: *July* 4, 1831.

In confirmation of your own experience as to the capability of silkworm moth eggs of preserving their animality, notwithstanding their exposure to severe cold, (as stated in American Farmer, No. 15, in your remarks upon an experiment of Mr. Duponceau,) and that of many others on record, I may mention a direct experiment by the celebrated professor Spallanzani, of Italy, in reference to this point. He inclosed eggs of silkworm moths and elm butterflies in a glass vessel, and burried them five hours in a freezing mixture: the thermometer fell 6° below the freezing point. In the middle of the following spring caterpillars came from all the eggs, and at the same time as from those that had suffered no cold. In another experiment they were exposed to cold of 22° below the freezing point, without injuring the eggs. Tracts, p. 60, vol. 1. The want of experience of D'Homergue, by whom I have no doubt the account of Mr. Duponceau's experiment in the American Farmer above alluded to was written, may induce him to think that the fact of silk caterpillars coming from eggs which had been exposed to severe frost, was never known before, and but for your notice of the fact having occurred to yourself, he would have published it as a great discovery. X.

PAPIN'S DIGESTER.

Mr Smith:

Your correspondent J. G. E. American Farmer, No. 12, who dates from Wilmington, N. Carolina, is informed, that Papin's Digester has been in use in my family since the year 1800, for making soup and boiling hominy, both of which articles are more perfectly made in it than in a common pot, owing to the confinement of the steam, when this, however, is too high, the safety valve rises, and lets it off, thus giving notice that the fire must be lessened. They are common articles in the shops of Philadelphia, and I presume also in those of New York, and Boston; price $3½ to $5, according to the size. See the Domestic Encyclopædia for an account of the digester.

Medicus.

RECEIPT FOR MAKING VINELLO.

A writer, in the Glasgow Temperance Record, gives the following receipt for making cheap home-made wine, which he calls *Vinello.*

When your vine is of some size, instead of waiting till it produces grapes, which it may not do for some years, (though mine ripened some fruit in the open air the first year it was planted;) about the beginning of July prune all its rambling branches; cut them into small pieces. and, in some large vessel, infuse 6 lbs. of them, with the leaves, for about half an hour, in six imperial gallons of boiling water, and add to the infusion 13 lbs. of loaf sugar. Pour the infusion into a jar or cask; and, in the course of ten days, when it has begun to ferment, put into the jar or barrel a large handful of elder flowers, which will greatly improve the flavour of the wine. Place the jar or cask in rather a warm situation, and, after two or three months, when the fermentation has ceased, bung it up, and bottle it next summer. Lay the bottles on their side if not waxed, and in the course of two months it will be ready for use, and will be found to be a very pleasant, sparkling wine; partaking of the qualities both of Champagne and of Frontignac, being as brisk as the former, but in flavour more resembling the latter, with this advantage over both, that it costs only about four-pence a bottle. It is seven years since I planted the Nagal Muscadine vine in the open air, and, in proof that it ripens its fruit without any artificial heat but that which is given by a common wall, I have a seedling vine, raised from the seed of its grapes, and which I expect to bear fruit next season. But, fortunately, we do not depend on grapes for our vintage, as the prunings can always be had. For four years we have annually made several gallons of wine, which we call *Vinello,* that being the Italian for a light pleasant wine. Last year's vintage was so good, that a gentleman, with whom I exchanged some of it for Frontignac, said, that he could not distinguish the one from the other.

I am, sir, your obedient servant. Vintor.

GEORGIA WINE.

At the polite invitation of Col. Zachariah Williams, of Columbia county, we attended at the Globe Hotel, last evening, with some 15 or 20 of his friends, of this and other counties of the state, to taste some domestic wine, made by himself. It was of two kinds—made from the Madeira grape, and the Warren grape—and with it, on the table, was a bottle of wine, made from the Burgundy grape, by Mr. Adlum, of Georgetown, D. C. a gentleman distinguished for many able essays, laid before the public, on the culture of the vine---and another, of imported old Madeira, furnished by one of the first judges and importers in the city, and recommended as a first rate article. The general opinion of the company, who were nearly all good judges, was, that the domestic wine made by Col. Williams, was very far superior to any domestic wine they had ever drank---either Mr. Adlum's, or Mr. McCall's, of this state, which several of them had drank, or any other---the Madeira particularly, which was considered, with suitable allowance for the difference of age, it being of last year's vintage, nearly equal, in body, flavor, and color, to the imported, and by several, quite so. Indeed, it was so far superior to any domestic wine they had tasted, that all were most agreeably surprised and delighted. The Warren, though by no means equal to the Madeira, was considered an excellent sweet wine, of fine rich body and flavor—and by those who like sweet wines, it would doubtless be a great favorite.

We cannot too highly commend examples like these, of a patriotic desire to improve the natural resources and wealth of the state; and the present one evinces, in a striking degree, the great advantages to be derived from the culture of the vine. Many have been discouraged, by the belief that a first rate article could not be produced here—a belief proved by Col. Williams's Madeira to be altogether erroneous. A great moral inducement to the culture of the vine, is the fact, that in all wine-making countries, where wine is the common drink, the people are uniformly temperate, as well as generally healthy, and indeed drinkers of wine alone, are temperate every where; and with the knowledge of these facts, the advocates of temperance may well wish success to the culture of the vine, as an excellent aid to the Temperance Societies.—*Augusta Courier.*

(From the New York Farmer.)

IMPORTANT IMPROVEMENT IN THE PRODUCTION OF CREAM.

For about twelve months past, Mr. Samuel Davis of New York, has been trying experiments on the use of milk pans made of zinc, as a substitute for those of tin or other materials. His experiments last summer, on Long Island and New Jersey, were highly satisfactory. He and other gentlemen interested, have repeated them this spring, with results equally favorable. They have ascertained, that milk in zinc pans will keep sweet four or five hours longer than in those of other materials: and, consequently, afford a longer time for the cream to rise.

On Wednesday the 25th inst. we saw three tin and three zinc pans, having in each, nine quarts of milk. The milk which was just from the cows, had been put in on the Monday previous, at three o'clock in the afternoon. On Wednesday at nine in the morning, when we were present at the skimming, the milk in the tin pans had become mostly coagulated or loppard; that in the zinc pans but slightly sour. At two o'clock, this latter afforded a second skimming. The result of the churning was, that the cream from the zinc produced 3 lbs. 5 oz. and that from the tin only 2 lbs. 5½ oz. Care was taken to have the experiments correct and fair. In addition to the extra quantity, the butter from the zinc vessels is thought to be sweeter.

We do not know on what principle to account for this effect, except it may be that of galvanic agency. The importance of the improvement, will at once be perceived by every one. The pans are very durable, not likely to rust or oxidize, and at a price very little higher than those of tin.

Pans and kettles of every description are manufactured by the proprietors of the patent, Messrs. John Westfield, & Co. No. 162 Mott street, New York. We hope farmers will lose no time in furnishing themselves with one or more pans to try the experiments.

MISCELLANEOUS.

(From the New York Farmer.)

REMARKS ON VEGETABLE AND ANIMAL PHYSIOLOGY.

BY E. H. DIXON.

To an individual accustomed to view the productions of nature with the eye of a philosopher, and to consider their origin, growth and decay as the result of fixed immutable laws, a formal vindication of the advantage of physiological knowledge would be superfluous; but he whose pursuits have been such as not to allow the acquisition of this knowledge, might be inclined to ask, why all this array of book learning? Do not the planets revolve, vegetables grow, and animals consume them, as well as if you and your books were not in existence; and can you tell us the origin of this blade of grass? Supposing this question coming from one of the good and hardy old yeomanry of our country, men whom I delight to look upon, and whose welfare should be near the heart of every honest man, I would say, softly, neighbour, softly. Let me ask you a question? Do you know the ultimate origin of that beautiful grass bred hog, that will fatten on half the quantity of food required by that other tall vagabond looking beast, belonging to your anti-improvement neighbour. If you cannot answer my question, I am sure I cannot yours, but I can assure you it was by observation, and that is a great step towards physiology, that this improvement has come to pass. The animals look very different at present, but the gradations by which this one arrived at its present excellence, (descended, perhaps, from the progenitors of that other very beast,) were scarcely perceptible to any but the eyes of his intelligent owner. It was by availing himself of two well known laws in physiology—The resemblance of the young to the sire, and avoiding to breed from the same family, that an animal has been obtained combining so many good qualities as nearly to defy further improvement. Now if no other motive existed but that of mere interest, it would certainly be sufficient to induce a little closer inspection of nature: but not so, man is an inquisitive animal, and is not inclined to take upon trust, that for which he can find a rational cause. Let us endeavour to trace the succession of some of the various phenomena which are constantly occuring in the innumerable objects by which we are surrounded to their final results, knowing these we shall be better able to judge of the causes which produced them. And this at once opens the door of improvement. The results are obvious, if any doubt, let them cast their eyes over the transactions of any respectable agricultural society, and they are abundantly answered. The Bakewell and Devonshire cattle, the South Down and Dishley sheep; the magnificent improvements in fruit culture, and that of the grasses, attest the importance of scientific knowledge. Taking it for granted, that the importance of the subject is sufficiently obvious to every man of common intelligence, we shall give the most approved definition of our subject. Physiology is a knowledge of those laws, in obedience to which organised bodies, plants and animals, produce that combination of phenomena which is the evidence of their vitality, or in plain language, which tells us they are alive. Organic or living bodies constitute one of the grand divisions of nature's kingdom.—Inorganic, or dead bodies the other. The former contain within themselves a peculiar power of resistance to those physical and chemical laws which hold such absolute sway over the latter. That is, so long as they are alive, for as soon as an animal dies, it is subjected to the chemical law of decomposition; all succulent plants if not freely exposed to the sun and air, by which their juices are withdrawn, also run into immediate decomposition. These changes are all the result of chemical action.

Organic bodies are advanced considerably higher in that beautiful chain which constitutes the interminable whole; they have been kindly interposed by nature in the shape of plants between that higher department of organization—animal life—and that which has no pretentions to either, viz. the primitive substances,—the earths, gasses, &c. By means of their beautiful internal structure, they transform these substances, utterly worthless as animal nutriment, into a delicate and succulent food. Thus it is seen that the lowest department of nature is subject to the next in rank, whilst these in turn, are consumed by the animals appropriated to the use of man. From the very earth worm that occupies so low a scale in the animal chain, that it is doubtful whether vegetable life is essential to its existence, to man himself the chain is continuous, the dependence is mutual.

Another marked difference between organized and inorganized bodies, is observed in their mode of development. The former receive all their increase from within, through the medium of their internal organization, and have the power, (possessed in a still higher degree by animals) of transforming the juices they derive from the earth, into their own peculiar substance; whilst the latter, instance the familiar example of stones—grow either by accretion, like a snow-ball rolled upon the snow, or by means of a chemical combination of particles dissimilar to themselves, forming in many instances new and curious compounds. It will also occur to the reader upon a moment's reflection, that almost all organic beings are characterised by their round and smooth surfaces, and seldom in a state of health, have any of that roughness peculiar to minerals. Stones however lose this roughness by attrition, or becoming as is seen in the beds of brooks and rivers, water-worn. The quantity of liquids, also, existing in organic bodies is far greater than in mineral.

In many of the more succulent kinds of plants, they form by far the greater part of their constituents; whilst in minerals they either do not exist at all, or in so small a quantity as to be scarcely appreciable. Liquids appear to be indispensable to every being possessing animal or vegetable life. Richerand, speaking of trees observes, "Their nature more complex than that of minerals is less so than that of animals: the proportion of the solids to the liquids is greater than in those last; accordingly they retain long after death their form and bulk, only they grow lighter: the solids are in man nearly a sixth of the whole body, his carcase decomposed by putrefaction remains a little earth and a light skeleton when the ground and the air have drawn from it all its juices. A tree is more than three parts solid wood. It has been dead for ages and yet in our buildings it preserves its form and size, though by drying it has lost a little of its weight."

It would be wrong, however, to omit mentioning the heterogeneous nature of the constituents of living beings amongst the differences of the two grand divisions, although a more minute description of these is intended hereafter. Few of them contain less than four and none less than three substances entirely different in themselves, and each deserting its post and seeking another asylum and alliance with some of the thousand beings, with which it is surrounded; upon the death of the individual whose existence it helped to maintain. These changes are constantly occuring and are no doubt necessary to the existence of every living being—Nature is impatient of a moment's pause.

> "By ceaseless action all that is subsists,
> Constant rotation of th'unwearied wheel
> That nature rides upon, maintains her health,
> Her beauty, her fertility."

The substance termed carbon occupies a prominent station in the vegetable kingdom, and azote or nitrogen an equally conspicuous one in the animal.

The former with the addition of oxygen and hydrogen exists even in the least complicated vegetable; and it requires the presence of the latter to produce a being possessed of animal life. As soon as death occurs, important evolutions take place among these gasses, by which the phenomena of the different kinds of fermentation and putrefaction are beautifully elucidated. Minerals, instead of three or four ingredients have seldom more than two, and are mostly characterised by some peculiar substance, as sulphur, or nitre, &c. Articles so dissimilar that they are easily recognized; besides, the metals which form a great part of most minerals, are themselves simple substances. In consequence of the homogenous nature of their composition, and their firmer aggregation, they resist decomposition with more tenacity, and it is only by the long action of atmospheric influence, in itself a chemical process, or some immediate chemical or mechanical means that their structure can be at all altered. Many of the inorganic products can be reproduced by a chemical union of their constituents, whilst this is utterly impossible in an organic body. The last and greatest difference we shall mention consists in the wonderful power possessed by organic beings, whether plants or animals of renewing their species, which they do by virtue of their own inherent powers: this function will furnish the subject of a future communication. E. H. D.

POTATO STARCH.—Daniel Brown, Esq. of Portsmouth, N. H. has recently put in operation a manufactory of potato starch, which has already used 15,000 bushels of potatoes and it is thought will use 40,000 bushels before 1832.

We believe there are two manufactories of starch in this country alone, one at Gilsum, and one in Dublin. Mr. About's factory in Gilsum worked up 16,000 bushels of potato the last season. One farmer, in Sullivan, raised 2000 bushels. Starch is used in all the cotton manufactories.

[*New Hampshire Sentinel.*

THE SWALLOW.

Wilkesbarre, June 22.

A few weeks since, Charles Miner, Esq. (now on a visit to this place,) favoured us with a communication upon the subject of a species of Swallow, that has recently migrated to Wyoming Valley. We have since received from Doct. Mease, of Philadelphia, a very interesting letter upon the same subject, which we take the liberty to publish. The bird of which it speaks has excited the curiosity of many of our citizens, who no doubt, will be highly gratified by a perusal of the letter. [*Susquehanna Democrat.*

Philadelphia, 14th June, 1831.

Gentlemen.—I am so much gratified by the notice taken, by "a lover of nature," in a late number of your paper, of the appearance of the fulvores or cliff swallow, in your vicinity, that I cheerfully comply with the general request made by your correspondent, by sending some facts respecting those interesting strangers.

These birds were first described, but imperfectly, by a French Naturalist, M. Vieillot, in his work on the birds of North America, published in Paris, in 1807. He first saw them in a small flock in St. Domingo, and again in the possession of another Naturalist, who had brought specimens from Porto Rico.

The best description of them is in the account of Col. Long's expedition to the Rocky Mountains, De Witt Clinton, and Mr. Audubon also notice them in the first volume of the Annals of the Lyceum of New York. Charles Bonaparte describes and figures both birds and nests, in the first volume of his American Ornithology. Mr. Clinton's paper was read before that association in the year 1824, and he states that they first made their appearance (in New York) at Winchell's tavern, between Whitehall and Lake Champlain, in the year 1817. The nests increased from one, in that year, to 70 in the year 1822. Since that time they have continued to increase, and the birds have extended themselves to Fort Miller, Delaware county, and Ballstown in New York. He mentions that they are also found at Newport, Kentucky, and Red Bank, Ohio; and it was yesterday noted in one of the city papers, (Poulson) that they have fixed themselves in Hampshire county, Massachusetts, "within a few years." I may mention by the way, how useful it is, to publish accounts connected with natural history in country papers, and how much the science is thus promoted. The Hampshire editor, says, he was induced to notice the domestication, or appearance of the cliff swallow, in consequence of seeing the account you published "of a lover of nature," inserted in Mr. Poulson's paper. As the cliff swallow, in common with its congeners, lives on insects, I presume I need not advert to the peculiar claims it has to the protection of the farmer, and hope they will be permitted "to increase and multiply."

I am, respectfully,

JAMES MEASE.

TO DRESS VEGETABLE MARROW.

Take the fruit when about half grown; cut it length ways through the middle (if large, cut into three or four slices;) take off the outer skin; cut into small dice, about half through one side of the slices; then scrape a little of the fat of bacon, and put it into a saucepan, with a little parsley, shallots, and mushrooms, chopped very small, and let them fry a little; then add about a table-spoonful of flour, with a little salt and pepper, mixed altogether; then put slices of vegetable marrow into a stewpan with a cover, and put the fried seasoning over the slices, and let them stew on a slow fire, with a little fire on the cover. When enough done, serve up.

The Society's silver medal was given to Mr. Crichton for this communication; it should have been given to the cook.—*Loudon.*

Cheese Gourd Dressed in the Spanish Way.

When ripe, cut the fleshy part into slices about half an inch thick; score it across into small dice about half through one side of the slices; scrape a little of the fat of bacon, and put it into a saucepan, with a little parsley, shallots, and mushrooms, chopped very small, adding a little salt and pepper; put them on a slow fire to fry a little, and place this seasoning upon the cut side of the gourd slices. Put the whole into a quick oven, with a little butter or olive oil; and, when baked a little, serve up the dish.

The utility of gathering unripe Tomatos, and maturing them on the shelves in hot-houses.

The tomato ripens with difficulty on the open walls in Staffordshire. About the 20th of October, Mr. M'Murtrie cuts all the fruit that may have ripened and the best-swelled green fruit. The latter he places in a stove or hot-house, and in three weeks or a month they ripen as well, acquire as fine a color, and are as good in every respect, as if they had come to maturity out of doors. Another gathering, to be treated in the same manner, was made about the end of October. Those who have not a hot-house may hang them up in a warm kitchen. The consumption at Shrugborough is about two bushels a year, which are produced by about 80 plants.

Budding the Peach upon the Apricot.

In 1824, Mr. M'Murtrie inserted a quantity of peach-tree buds in the branches of Moor Park apricots, which made fine healthy wood, and in 1826 produced fruit far superior to that on the peach trees. Mr. M'Murtrie is not prepared to say from what cause, but merely speaks as to the fact. In a postscript, dated April, 1828, he states that his expectations were fully realised by crop 1827. "The fruit was larger and finer than that on the peach trees; which confirms me in the opinion that the practice will be of utility."

The Centreville (Indiana) Times contains the following anecdote:

Remarkable conduct of a horse.—Mr. Israel Abrahams, in the vicinity of this town, has a horse that will, of his own accord, pump a sufficiency of water for all the other horses on the farm. We have witnessed him, when turned loose into the barn yard, go directly to the pump, take the handle between his teeth, and throw the water with as much force, and almost as much regularity as a man would, until he would pump enough for his companions and himself, when he would drink, and deliberately retire. No pains were ever taken, or means used, to learn him a business which proves a great accommodation to himself, and relieves his owner of considerable labour.

Lease of a Farm for One Year.

If a lease be made for the term of a year and the tenant sows the land with spring grain, he has no right to the crop, for it must be cut after the term is out.—*Law Intelligencer.*

THE FARMER.

Baltimore, Friday, July 8, 1831.

Green Corn.—We observe a notice in the papers that Mr. Lyford had green corn on his table on the the 2nd July, *received from Norfolk.* The Editor of the American Farmer could have supplied several tables with green corn, from his own garden in the precincts of Baltimore even earlier. At the present time he has a great abundance. We have always been surprised that gardeners do not pay more attention to this excellent vegetable—there being no one in more universal use. It can always be produced from three to four weeks earlier than at present, merely by a little attention to the choice of seed.

Fine Apricots.—A friend of ours has a fine apricot tree now in full fruit, which deserves a special notice. It is called Forsyth's orange apricot, and is a most beautiful, as well as excellent variety. The fruit is as large as a moderate sized peach, measuring from six to seven inches in circumference, and of a rich orange color. The appearance of the tree at this time is rich beyond description. The proprietor has politely tendered to us buds or grafts at the proper seasons for any of our friends. The tree was obtained from the nursery of Mr. James Wilks of this city, who always keeps a good supply of these and other fruit trees.

Since the above was written, we have been presented with an apricot from another tree growing in this city, of the same kind and fully equal to the above. The tree was obtained from the nursery of Mr. John Willis, of Oxford, Eastern Shore of Maryland. While such fine fruit can be so easily raised, it is astonishing that the contemptible things called apricots and hawked about the city at this time, are not made to give place to them.

The Weather and the Harvest.—For eight or ten days past, we have had most unfavorable weather for the harvest, it having been rainy or cloudy during the whole of that time. In all the southern and eastern shore counties of Maryland and Virginia, the harvest had just commenced as the rain set it; and, so far as we have heard, the result has been, or will be, most disastrous.

The following letter from one of the most extensive farmers in Dorchester county, Md. will give an idea of the state of the harvest in that county. As the state of the weather has been the same in Baltimore, and as far as we have heard from in all directions, there is little hope that the other Eastern Shore counties have fared better than Dorchester. The wheat harvest in Baltimore and the upper counties, has not generally commenced, and we have a hope that the weather will clear up in time for it. After all that has been said of the depredations of the fly, frost, &c. we believe that, favored with a good harvest time, the wheat crop of 1831, in the upper counties of Maryland and Virginia, will be at least equal to that of any former year.

Since the above was written, we have seen a gentleman who was in Kent county on Monday last. He represents the state of the weather and the crops as being most distressing. He saw the wheat standing in shocks, and having the appearance of green grass—so completely had it become "grown." We have no hope for the safety of any of the Eastern Shore wheat—how much further the disaster has extended, remains to be seen. At present there appears no more prospect of fair weather than there was a week ago, and if it continues thus much longer, even the wheat that remains standing will hardly be worth harvesting.

G. B. Smith, Esq. *Cambridge, July* 2, 1831.

Dear Sir,—There is something in the human mind, which leads man to seek comfort by communicating his misfortunes. With this motive, and that too of giving you information of the state and prospect of crops which you have desired, I indulge the feeling arising from the most disastrous agricultural calamity, to announce the fatal, final, and utter destruction of the remnant wheat crops of Dorset; that portion which the frost and fly had left, and which was more considerable than we had supposed, previous to harvesting, has been sprouted, rotted and ruined. I may say wholly ruined by the immense and almost continued floods of rain which have poured down in torrents, for the last eight or ten days, up to this moment; during which time our crops had been cut, or were cutting, and have been literally inundated and destroyed.

The corn must be materially injured, and in all low grounds, annihilated.

The Fayetteville fire produced a great sensation in the public mind; if this calamity from another element has extended to our neighboring counties, or further, as I think highly probable, the result in loss, embarrassment and distress, will, perhaps, exceed it.

The agriculturist courts no sympathies and will have no contributions: he is retired, and suffers in solemn silence the misfortunes which the laws of nature inflict upon him.

For the present year he has no hope, but that of a relenting Providence for the next. AGRICULTOR.

Georgetown, (Del.) July 1.

It is feared the crops of corn will be very much shortened, in consequence of the tremendous rain which fell on Tuesday last, in a part of this county, the low lands being completely flooded.

Frederick, Md. July 2.

THE HARVEST.—Our farmers have generally commenced "*harvesting*," and notwithstanding the fears which were entertained, some five or six weeks since, as to the effects of the cold weather, the crop of wheat will be an average one; and that of rye the best that has been gathered for the last three years.—*Herald.*

Easton, (Penn.) June 30

On Friday morning last, so heavy was the *frost* on the Pocono Mountains, that Mr. Sox, we are informed by a person who put up at his tavern, made a large ball of some be gathered before his door.

Charlotte, (N. C.) June 29.

We will merely observe, that about here we have so much rain as to render the prospects of the farmers discouraging and gloomy, in their cotton and wheat crops. From the great quantity of rain for the past 3 or 4 weeks, the attempts at harvesting have been rendered abortive, and the farmers are compelled to look on with the melancholy prospect of having their wheat destroyed in the field.—*Miner's Journal.*

West Chester, (Pa.) July 6.

Our farmers are in the midst of harvesting. There is a full average crop; some fields are remarkably fine. [*Record.*

FOREIGN MARKETS.

LONDON CORN EXCHANGE, *Friday, May* 27.—The arrivals of all descriptions of grain this week are moderate; of English Flour the quantity is middling, but there are several vessels in with American. The wheat trade for fine parcels is firm, but in other qualities there is not much doing. Barley is dull at Monday's prices. Beans and Peas unaltered. Oats meet a fair demand at last quotations. Flour has met a slack trade this week.

(From the London new Price Current of May 27.)

Cotton.---The market is very dull, but there are few sellers at any reduction. The sales this week are 10 Bengal as 4 5-8*d.*; 230 Surat 4½*d.* a 5*d.*; 400 Surat, public sale, 4*d.* a 4½*d*; 40 Bowed, public sale, 6 3-8*d.*; 100 Pernams, 7 5-8d.

Saltpetre.---By public sale 1,163 bags sold at 36*s.* and 36*s.* 6*d.*; there is no alteration since in the prices.

Tobacco.---There are no sales of any extent to report.

The public sale consisted of 53 hhds; it was ill attended, and only 6 hhds. sold, good quality Marylands for the home trade 7*d.* a 11*d.* per lb.

Prices Current in Charleston, June 25.

Cotton, Sea-Island, .17 a .20. Upland .7 a 9½. Santee and Maine 16 a 17. *Rice*, prime, $3 1-8. a 3¼, inferior to good, do. $2.5-8 a .2.7-8. *Flour*, Philadelphia, Richmond and Baltimore $5 5-8 a 5¾. *Corn* .66 a .70. *Oats* 42 a .48; Peas, 64 a 67. *Hay*, prime Northern, 1.00 a ——*Whiskey*, Philadelphia and Baltimore, hhds. .39 a .—; bbls. 40 a —; New Orleans, old .42 a —. *Beeswax*, .18 a —. Tallow, Carolina, 8¼ a —. *Beef*, Boston, No. 1, 8½ a —. Mess, 10 a —; New York Prime —. *Pork*, Mess. .16 a ——; Prime, .13 a .——. *Bacon*, .7 a .8 cents; hams, 9 a 10, Lard, 10 a 11. *Butter*, Goshen, 18 a 20; inferior 8 a 10.

Prices Current in New York, July 2.

Beeswax, yellow 22 a 23. *Cotton*, New Orleans .10 a .12; Upland, .8½ a .10½; Alabama, .8 a 11½. *Cotton Bagging*, Hemp, yd. 18 a 20; Flax 12½ a 16; *Flax*, American, 7 a 8.——*Flaxseed*, 7 bush. clean .—— a .—— *Flour*, N. York, bbl. 4.87 a 5.00; Canal, 5.25 a 5.62; Balt. Hwd.st. —— a 5.25; Rh'd. city mills —— a —— country, 4.62 a 4.75; Alexand'a, 4.75 a 5.00; Fredericksburg 4.62 a ——; Petersg. 4.56 a 4.62; Rye Flour, 3.50 a 3.75; Indian Meal, per bbl. 3.50 a 3.62; per hhd. 17.50 a 17.75; *Grain*, Wheat, North, 1.00 a ——; Vir. 90 a 1.00; Rye, North, 72 a 74; Corn, Yel. Nor. 69 a 70; Barley, — a —; Oats, South and North, .33 a .38; Peas, white, dry, 7 bu. 5. Beans, 7 bu. 7.00 a 8.00. *Provisions*, Beef, mess 8.50 a 9.25; prime 5.75 a 6.25; cargo 4.62½ a 5.00; Lard, 9 a .10½; Pork, mess, bbl. 14.50 a 15.25; prime 10.50 a 11.50.

RUTA BAGA SEED.

The subscriber has a small quantity of Ruta Baga seed, of an excellent quality, for sale, price 75 cents per lb. The season for sowing this seed is near at hand, and application should be made soon.

Also, *tall meadow oat grass seed* at $2.75 per bushel—this should be ordered soon for fall sowing.

GIDEON B. SMITH,
GP American Farmer Office.

AGRICULTURAL WORK.

Just received and for sale at this office, price $12. AN ENCYCLOPÆDIA OF GARDENING; comprising the Theory and Practice of Horticulture, Floriculture, Arboriculture, and Landscape-Gardening, including all the latest improvements; a general history of Gardening in all countries; and a statistical view of its present state, with suggestions for its future progress, in the British Isles. By J. C. Loudon, F.L.S. H.S. &c. Illustrated with many hundred engravings on wood by Branston. London, pp. 1233.

"Although this second edition forms a less bulky volume than the first, yet it contains considerably more printed matter; besides above a hundred new engravings. These important additions we have been enabled to make by printing all those parts of the work which may be considered as of secondary importance, in a smaller type than that of the general text."

In the present impression, the Tables from p. 867, to p. 934, have been corrected, and greatly enlarged and improved. J. C. L.

Jan. 18, 1830.

J. S. EASTMAN,

No. 36, West Pratt Street,

OFFERS, at *Wholesale and Retail*, Hay and Manure FORKS, and Scythe SNEADS.—Also for sale, Grain CRADLES, and Cradle SCYTHES, Grass SCYTHE, English and American, with and without Sneads, Wheat FANS. Scythe STONES, &c. &c. Together with his usual assortment of PLOUGHS, and other AGRICULTURAL IMPLEMENTS, Garden Seeds, &c.

A fresh supply of FLOWER SEEDS, just received from the Messrs. Landreth's.

June 3.

WOOL WAREHOUSE.

LYMAN REED,

Commission Merchant, No. 195 *Baltimore street,*

Devotes particular attention to the sale of WOOL. Any consignments of the article forwarded to him for sale, can be disposed of immediately for CASH, at the highest market price.

CASH, and a fair price, will be paid for a few thousand pounds of *good wool*, (if offered immediately,) to supply orders now on hand.

Refer to Messrs. Cobb, Wyman & Co. Baltimore.

CASH FOR WOOL.

The subscriber is in this market as a purchaser of wool for eastern manufacturers, and will pay cash and fair market prices for every description of American wool. RICH'D MESSITER,
No. 5 Light street wharf, up stairs.

May 20. 2 m.

BALTIMORE PRICES CURRENT.

BALTIMORE MARKET.--There is no change in the prices of flour or wheat. The wagon price of Howard street flour remains at $4.50. Fresh ground city mills in small parcels commands $5. There is very little if any wheat in market. We heard yesterday of a small lot of new red wheat having been offered at $1.05, but could not hear of its sale. Rye has materially declined, as will be seen on referring to our quotation. There is little doing in corn. Wood has advanced a trifle, owing to the engagement of those employed in the trade, in harvesting. No change in beef.

TOBACCO.---Seconds, as in quality, 3.00 a 5.00; do. ground leaf, 5.00 a 9.00.—Crop, common, 3.50 a 4.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 10.00; yellow and red, 8.00 a 14.00; yellow, 14 00 a 16.00.—Fine yellow, 16.00 a 20.00.—Virginia, 4.00 a 5.00.—Rappahannock, 3.00 a 4.00——Kentucky, 3.50 a 8.00. The inspections of the week comprise 474 hhds. Md.; 64 hhds. Ohio; 102 hhds. Kentucky; 3 hhds. Virginia; and 2 hhds. Pennsylvania;—total 645 hhds.

FLOUR—best white wheat family, $6.00 *a* 6.50—super. Howard-st. 4.75 *a* 4.87½; city mills, fresh, 5.00 Susq. 4.50 *a* ——; CORN MEAL, bbl. 2 25; GRAIN, Md. red wheat, 90 *a* 1.00; white do. 1.05 *a* 1.15, Susq. 1.05 *a* 1.09-CORN, white, 60 *a* —- yellow 61 *a* 63-RYE, 60 *a* 61. OATS, .33 *a* 34. BEANS, 75 *a* 80--PEAS, 65 *a* 70—CLOVER-SEED —— *a* ——TIMOTHY, 2.00 *a* 2.50—ORCHARD GRASS —— *a* ——Tall Meadow Oat Grass 2.75--Herd's, 50 *a* 75--—Lucerne 30 *a* 37½ lb.——BARLEY, ——FLAXSEED —— *a* ——COTTON, Va. 9 *a* 9½——Louisiana 10¾ *a* 11½ —Alab. 9½ *a*. 11—-Tenn.. 9 *a*. 10——N. Car.. 9 *a* .9½—— Upland 8 *a* 9½--WHISKEY, hhds 1st p.— *a* 34—; in bbls 36 *a* 37———WOOL, *Washed*, Prime or Saxony Fleece 47 *a* 51; American Full Blood, 45 *a* 52; three quarters do. 53 *a* 58; half do. 65 *a* 75; quarter and common do. 14 *a* 15. *Unwashed*, Prime or Saxony Fleece, 36 *a* 40; American Full Blood, 33 *a* 40; three quarters do. 37 *a* 45; half do. 33 *a* 35; quarter and common, 30 *a* 33——HEMP Russia ton, $255 *a* —; Country, dew-rotted, 6½ *a* 7½c. lb. water-rotted, 7½ *a* 9c.-Feathers, 35 *a* 36; Plaster Paris per ton, 3.75 *a* 4.00, ground, 1.37½ *a* — bbl. Iron, gray pig for foundries per ton 33.00 *a* ——; high pig for forges, per ton, 28.00 *a* 30.00; bar Sus. per ton, 72.50 a 80.00.—Prime Beef on the hoof, 5.50 *a* 6.50—Oak wood, 3.00 *a* 3.25--Hickory, 4.25 *a* 4.50—Pine 2.00 *a* 2.25.

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TERMS.

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2. Subscriptions are in all cases charged *by the year*, and never for a shorter term.
3. When once sent to a subscriber, the paper will not be discontinued without his special order; and then not till the end of the year of his subscription that shall be current at the time of receiving such order; except at the discretion of the publishers.
4. The risk of mail in the transportation of both the paper, and of bank notes sent in payment for it, is assumed by the publishers.
5. Advertisements connected with any of the subjects of the American Farmer, inserted *once*, (seldom more) at one dollar per square.
6. All letters concerning this paper must be directed to the publishers. They must be free of postage, except communications intended for publication, and letters containing money.

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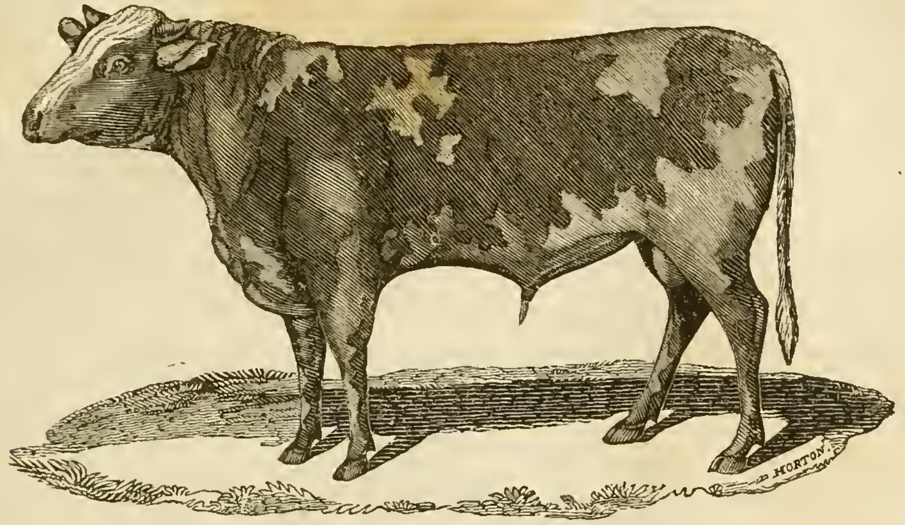
AGRICULTURE.



FREDERICK SHORTHORN BULL POWEL.

Lucky-hit Farm, near the White Post,
Mr. Smith: *Frederick Co. Va.*

I had fully intended to accompany the engraving of the bull Powel with some considerations on the subject of breeding; cattle in particular, with the hope that at least they would be followed by an excitement leading to investigations which might ultimately terminate in decided benefits to a business requiring the experience and the scientific aid of the knowing ones—but circumstances have prevented me, and perhaps the delay may have the salutary effect of suggesting that whenever critical remarks are made on difficult and undetermined points they should proceed from much experience and the clearest investigation---for the present then, you will please accept a few general remarks, and if time and opportunity shall favour my desires and intentions, at some future period, I will attempt an experience which may be worth more than it is at present. Some most valuable observations in number 15 of the American Farmer, by one of our New England breeders, convinces me of the importance of this precaution, while at the same time they afford to the theory and practice of breeders some of the most interesting propositions. If the fact can be established beyond controversy, that unvarying, first rate dairy cows can be raised in families by a strict attention to their connection with bulls of the same family, how easily then may dairies be multiplied in our country with double their usual profit—this intelligent N. England farmer would confer on the community a singular benefit by mentioning a number of unquestionable instances where families of cows have maintained their superiority in that particular. And why should it not be so, even though theory should venture to argue against practice? We know there is a decided and distinct beef breed amongst us --cows that are large, well formed, and generally fat, having small bags, but producing the finest calves, an evidence at least of the quality of their milk—these cows are not half equal when their calves are taken from them in milk to our cows of ordinary size, of any breed, figure or denomination. But the great object of the majority of farmers is to amalgamate these properties, viz. milk and beef—and we are so grasping as to wish to add to those valuable qualities activity, and a form well adapted to the yoke—that all these qualities may be united to advantage, I verily believe from my little experience, and from the experience of others—but to expect the highest degree of perfection in either, I believe to be utterly impossible. It is the cross of the shorthorn on cows of fine size and form for beef, with characters as well established as possible for milk that I am endeavouring to bring to perfection—individuals will always be excluded especially when inclining too much to the beef breed, or rather when they are not sufficiently abounding in milk—but I am decidedly of the opinion that the business of raising dairy cattle, is one and distinct from the production of large, beautiful, high formed animals, calculated in so many respects to reward the diligence and observation of a skilful breeder. I have fully tried the experiment on sheep by every intermixture that prudence could suggest—and candour must constrain me to say, that from an experience of 25 years I believe it impossible to exceed the weight in mutton of more than 80 or 100 pounds in the general, when double and treble the quantity of wool of superior quality is shorn from them—whereas if mutton was the principal object, I have no doubt that from 100 to 150 lbs. might be obtained. (To digress for a moment as I know not when it will be in my power to make you a report of our shearing, I will tell you that 160 sheep including 78 ewes, 20 of which were latter lambs, with their lambs by their side, averaged nearly 7½ lbs. of wool in the dirt which I have sold for 45 cents at my door.)

It is not intended to insinuate that cows of the most splendid appearance may not be first rate milk animals, but that it is not common to see size, beauty, quickness of motion, adaptedness to the shambles and great milking qualities united to a great degree of perfection in the same animal. It is believed from a general evidence in England, as well as with us, that the Durham shorthorns, unite in a greater degree these essential qualities than any other known breed. To arrive at the pedigree of our bull Powel on the mother's side who is thought somewhat remarkable, we must go back to the old Durham shorthorn stock left me by my father, some 30 years since, and originally introduced by Col. Cairy of Virginia while we were yet dependant on the mother country. They were very superior cattle with us, but were suffered to degenerate in the time of the memorable merino mania when whim or caprice, if any thing, were substituted for skill and judgment in their management. While in the colonial state, and for some time afterwards, our forefathers who were wealthy, liberal, and emulous to excel in raising the finest stock, imported largely of the various kinds—their blood is to be traced still to advantage throughout the country, and may be renovated sooner or later in proportion to the state of preparation for the modern shorthorn cross. Those who have fortunately had an eye to former advantages and have improved the remnant of the original breed by selection and care, will very soon experience the good effect of a cross—those who have a very degenerate race are in greater need of improvement, and although they will feel as immediate a benefit, it will be longer of course before they can arrive at those points, form, and propensities which generally ensure properties to be duly estimated whether for milk, beef, or fast walking and muscular oxen. It has been said by a gentleman of Massachusetts, (Gov. Lincoln,) whose discretion of judgment is much to be appreciated on any subject he ventures an opinion, that the introduction of the shorthorn breed of cattle into our country is next in importance to that of the merino sheep, without which we all know, or ought to know, that our manufactures could never have attained to an eminence suited to its soil and climate, or corresponding with the necessities, situation, character and interests of its inhabitants. But let the improvement of our cattle be ever so great, it is not probable there will be a mania on that subject, the price for them will never exceed a reasonable one; merit it is true will be, and should be rewarded in the production of remarkable animals, talents when industriously applied to any of the improvements of agriculture should meet with a distinguished reward as well as in other professions; it is reasonable to anticipate that those who excel will find a stimulus in a more than ordinary price as soon as sufficient light and information is spread, and proper lines of discrimination are drawn between the worthless, the improving, and the improved. In Great Britain their finest animals rent for more by the season than a drove of ours sell for here—this state of things can never be so with us, nor is it desirable; equality to the utmost extent, not touching the rights, impairing the obligations, or damping the ardour of enterprise and industry is most consistent with the genius of our institutions. The difference between us is this, that American breeders with moderate capital have only in view a good dairy, and competent oxen for work, with size enough for beef, with the exception of a few who are breeding at an increased expense for the supply of others, and are getting up a stock of animals more uniform in their appearance and distinguished in their qualities; whereas in Europe, the breeders, especially English, there are a variety of motives brought into action to create a competition and consequent superiority. Pride, wealth, ambition to excel not only in raising the finest beasts, but in the application of scientific principles in bringing them to perfection—leisure, taste, and honourable excitement, together with pecuniary expectation have operated with great success, but the latter with many distinguished breeders has been the least cause of exertion. Powel on the father's side was got by Edward, (who weighed 1850 lbs. at 3 years and 3 months,) who was got by Malcom, Mr. Powel's favourite breeding bull, out of Lady, a famous milker, imported expressly for that purpose—Blossom the mother of Powel was the premium heifer at one of the Winchester fairs, she has had three shorthorn calves, Powel, Tucahoe of James River, sold for $100 at five months old, and Frederick by her side to reward the enterprize of some fortunate purchaser. The likeness of Powel was taken when he was but little more than a twelve month old, and has the appearance of being long legged, but his present measure and weight will demonstrate to judges what his form must be—having in a very recent publication mentioned him more particularly, it will be only stated here, that when he was just 2 years, 1 month, and 11 days old, he weighed before a committee in the town of Winchester, 1741 lbs., and measured in length 9½ feet, girth 7¼, height 4 feet 10 inches, on the 6th June last. This amongst many other evidences in my possession, is a convincing proof to me of the superior importance of crosses which might not have been worth mentioning from a limited experience, was it not for the corroborating testimony of distinguished breeders across the water who are conspicuous alike for their candour and abilities. The time was when the reputation of stock breeding might be sustained by much writing, argument, and too little valuable practice—the in-and-in system is more or less exploded—though when thoroughly understood and practiced judiciously cannot be dispensed with, but to the most serious injury of improvement by crosses—full blooded stock are to be sustained as long as there is no perceptible deterioration—how can the best crosses be made without them? If there is any value in breed, in the original animal, it must be evident that there is no comparison between the value of the cross from a full, and a half bred one. Notwithstanding this reasoning in favour of the full blooded stock, I am proceeding on the plan of crosses and selection, and shall pursue an in-and-in system for some generations through the blood of the Frederich shorthorn bull Powel, or until a better animal makes his appearance. But this improvement is based on cows selected at any price, and high in value, so near that of the bull, as to suggest the propriety of denominating their progeny the full blooded Frederick shorthorns—an honest Dutchman testifies in relation to one of them. "I cannot ascertain the quantity of butter made from the cow Brina, (the one bought of him) as we always had two cows and the milk was not kept separate—the quantity made in one year from the two was 511¼ lbs., I think Brina produced considerably more than the other. Mrs. K. thinks when she was fresh, she would make 10 lbs. per week." My best cows have not exceeded 6 gallons of milk per day, and I consider from 5 to 6 with ordinary keep combining size, with a form and character productive of much beef when too old for breeding, a good turn out; but we hear sometimes of many cows producing 10 gallons for a considerable time—at others of extraordinary products where they are kept on slender fare—for my part I shall be always satisfied to reap great products from great pains, and should think scarcely any price too great to pay for cows yielding from 8 to 10 gallons milk per day; when I have shorn from 12 to 16½ lbs. wool from a few individual sheep, the average has been but 8½, I must suppose without further experience that this same fact may be applied to cows—that there are some wonderful productions cannot be doubted, but they must generally proceed from extraordinary and expensive care—this is not what will benefit a breed of cattle, or render a permanent service to farmers and breeders. What we want is a set of facts coming out of a reasonable practice to establish a system to be comprehended, appreciated and adopted, by the plain husbandry of the country. The shorthorn improvement has lost much in the loss of Mr. John Hare Powel as a breeder and importer, but we hope to have his place filled by Mr. Freeman of Baltimore, who has commenced his stock with one of the finest animals imported by Col. Powel, (Bolivar.) Mr. Freeman will have an opportunity of deriving a supply of the shorthorn stock from one of the most distinguished writers and breeders in England, the Rev. Mr. Henry Berry of Worcestershire, who has lately proposed to supply the United States with his improved stock, and who has richly merited the attention of breeders in this country, from the great ability and candour of his writings, added to the little doubt we have of his successful practice. It would have been most desirable had it comported with the design of these hasty remarks to have been associated with this gentleman in some of his opinions, to have designated, and quoted them for the great edification of our American breeders. With regard to breeding in-and-in my own little experience perfectly agrees with his, that it should be abandoned or modified on the first suspicion of degeneracy founded on a well grounded experience—that continuing to breed in-and-in from animals that discover such an over propensity to fat, that their progeny become small and feeble, and many individuals fail to produce at all, would be a most obstinate and injurious adherence to a system which is indispensible, managed with a watchful prudence. Let the form and the qualities of animals be ever so perfect, I apprehend that nothing can justify the necessity (save in very special cases) of resorting to the aid and skill practiced in the human family, the frequent occurrence of such necessity would rather argue a deficiency of that kind of practical skill which should be adapted to their nature and incorporated amongst the plain and obvious principles of skilful management. These hasty and unconnected remarks have been made through the first week of my harvest, which you know should have all of the farmer's attention, but if in borrowing for the shorthorns a little time, and taking an occasional rest, the followers should be careless in their duties, a horse rake* 10 feet long, and going over more than 20 acres per day makes clean work of it. I am, very respectfully, yours,

R. K. Meade.

(From the Southern Agriculturist.)

On the General Management of a Plantation.

"*West Point*, (*Geo.*) *5th April*, 1831.

Dear Sir,—You request to know what is my general system of management? I endeavour to employ those means in conducting the internal or domestic police of the plantation, which in my judgment is deemed best calculated to promote the comfort and contentment, and suit the condition of the subjects over whom they are intended to operate, and at the same time, secure subordination and good order.

These means should be assuasive and just, as well as imperative and effective. To this end I rarely punish myself, but make my driver, virtually an executive officer, to inflict punishments; that I may remove from the mind of the servant who commits a fault, the unfavourable impression, too apt to be indulged in, that it is for the pleasure of punishing, rather than for the purpose of enforcing obedience and establishing good order that punishments are inflicted, as it is no pleasure to a humane judge to sentence a fellow-creature to be hanged, and at one fell swoop plunge him into eternity.

To impress this more forcibly on their minds, when they have urged as a plea, that they are servants, and must submit to the will of their masters, who can do as they please: I have addressed them in a mild and simple manner, assuring them that the laws of the land have secured to them rights, which a master dare not violate, without incurring the risk of a heavy penalty, "by imprisonment and labour in the penitentiary, for a term not less than one, nor longer than five years," and "it is the duty of the inferior courts of the several counties in Georgia, on receiving information on oath of any *infirm slave* being in a *suffering* situation from *neglect* of the *owner*, to make particular inquiry into the situation of such slave, and render such relief as they in their discretion may think proper," and "they are authorized to *sue* for and *recover* from the *owner* the amount appropriated for the *relief* of *such slave*."

This protection which the benevolence of our laws has thrown around their persons, to save them in old age and infirmity from want and wretchedness; the boasted philanthrophy of Europe and the Northern States have never extended to the poor, old, white man!! I have told them too, that a soldier for disobedience of orders may forfeit his life, while they for a similar offence are only chastised: because it is the interest of a master to preserve the health, vigour and life of his servant, which produces a moral connexion and attachment betwixt master and servant, that freak, violence or misrule seldom severs.

When any quarrel or disturbance occurs on the plantation, one or two not implicated are examined in the presence of the accused, who have the right to correct false statements, and establish their innocence, by reference to other testimony, which is immediately produced by the driver, or if absent, and the case an important one, judgment is arrested until the necessary information can be procured.

I never permit a husband to abuse, strike or whip his wife, and tell them it is disgraceful for a man to raise his hand in violence against a feeble woman, and that woman too, the wife of his bosom, the mother of his children, and the companion of his leisure, his midnight hours. If the wife teases and provokes him by her nightly clatter, or crabbed deportment, and he complains and establishes the fact; she is punished, but it sometimes happens that the husband petitions for her pardon, which I make it a rule not to refuse, as it imposes a strong obligation on the wife to use her tongue with less bitterness, and be more conciliating in her behaviour.

If the driver suffers any irregularities on the plantation, or careless work to be repeated in the field with impunity, I reprimand him in private, then publicly; and tell him, that as a religious man, as he professes to be, he should recollect, that if he cannot be faithful to his earthly master who is at all times near him, providing food and clothing for his use and comfort; that the scriptures have declared, he cannot be faithful to his heavenly master whom he has never seen. If this simple mode of reasoning, fails to excite his pride, I then appeal to his passions, and rouse his fears by moderate punishment. This being one of the rare instances, where the master, or manager should inflict the punishment, and not degrade the driver by allowing a private to punish; which will humble a driver and prostrate his authority, that should be absolute.

If one negro steals from another, or from me, the driver is required to take of the marauder's goods and chattles an equal quantity, and restore the loss, or the thief is certainly punished if he cannot make restoration, or if fair promises are made, time is allowed for restoration. Drunkenness, if riotous, would be punished by lying in the stocks all night and drinking a pint of warm water. If a negro is sick a pint of corn is deducted from his allowance every day: because if he is really sick the nurse supplies him with good gruel, he therefore, does not require corn, and if he is merely shamming, a reduction of rations, like stopping a sailor's grog, will induce him to be more active in the performance of his duties.

The driver keeps an account of this sickness, and renders an account every Saturday of the work done, an acre notches on a stick, and in the same manner on his walking stick. So that if any mistake or fraud is committed, I immediately detect it; if his listing, bedding, and planting accounts do not correspond.

He also keeps an account of the number of calves marked, branded and altered; the names, colours, and qualities of our hounds, and the cause of their death; the time we plant vegetables and how they produced, with a list of flowers in the parterre.

Thus have I endeavoured to give you a brief sketch of the internal police of the plantation. To encourage industry and increase the comfort and contentment of these people, I allow every one, a task of ground, and a half task for each child capable of working. They have one Saturday to prepare, and another to plant their ground, and afterwards are assisted with a mule and plough, when it can be spared. They manage it their own way, and the entire produce is appropriated to their own purposes not subject to my control, and raise with it as many poultry as they please. I give to families having six children living, one cow, with the male issue; reserving the heifer calves. When the family increases to ten children living, I require no other labour from the mother than to attend to her children.

Whenever they are sick, a careful nurse comes in the morning, reports their case, gets the necessary medicine and administers it, or the patient is personally examined.

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* Fifteen years since when I commenced the use of one they were laughed at—but are now in general use.

With regard to the agricultural department, if we do not intend to clear land, as soon as the crop is laid by, and all the corn-blades stripped, dried and housed, we commence listing (in August) at the rate of from one and a half to two tasks to each full hand (able bodied man or woman.) As soon as the listing is completed, we clean out old ditches, dig others, and repair the fencing, if a late crop delays cotton picking. When the crop is gathered and prepared for market, we commence bedding, by running two furrows directly through the alley, so as to break it up well, and then bed with the hoe, at the rate of from two to two and a half tasks to each hand, as the ground may be heavy or light.

We first commence planting potatoes in large flat beds without cutting them; then early peas, (which are now up,) corn, and lastly, cotton, in all, just five acres to each taskable hand, that is, every negro capable of working over two tasks of ground generally in a day, and sometimes they have a part of the day, having finished their task. The corn is planted three feet apart, and thinned to one stalk; we formerly planted on the list, but find a good flat bed the best, as it saves a hoeing and elevates the plants above the smothering weeds around it. The cotton is planted on large, flat, wide beds at eighteen inches or two feet distance, and thinned down to one or two stalks as the soil is loamy or sandy.

On the third of April, the whole crop was planted and the side hoeing commenced, as we never hoe down if it can be avoided, considering it ruinous to the crop.

We are cruelly calumniated, and reproaches with a keen point have been hurled at the slave-holder, ever since the sanctity of law has checked the avidity of gain, and the tradesmen in human flesh have become the snivelling philanthropist, mourning over the objects of their traffic. But the condition of these people in South Carolina and Georgia, is infinitely preferable to the plebians of Rome, and the canaille of France, the Circassians of Egypt, the Gilden of Flanders, and even the peasantry of polished England, and not to be compared with Asiatic and African wretchedness. Here the slave is not required to pay a borthensome tax; he cannot be forced into battle, or made to do militia or jury duty: while the humane laws of England transports the African from the land of his birth, the home of his children, to sacrifice their lives in the cause of a king, they have never seen, and in defence of a government they know nothing about, and derive no benefit from; where a lawless press-gang can tear from the bosom of a helpless family their only protector, their chief support, and drag a ploughman from his plough, merely to increase the warlike array of an ambitious monarch, or shed the lustre of renown on some royal favourite dotard. Yet so strange is the inconsistency of mankind, that this system of slavery unto death, has received the halo of approbation, and the sanction of custom has reconciled all generations to it, while we are vilified for improving the condition of these indispensable auxiliaries to Southern Agriculture.

Hoping that I have embraced and not exceeded the object of your inquiry, or the purposes of the Agriculturist, I am, Sir, with my best wishes for your success. Very respectfully,

W. W. Hazzard.

To Prevent the Depredations of Weevil.

Whoever will take the trouble to gather Elder stalks and leaves, and put plenty of it among their wheat while mowing it away, will find it in a state of preservation at threshing time.—*Western Tiller.*

Camphorated spirit applied to the flesh will keep off musketoes for several hours.

(From the Monthly American Journal of Geology and Natural Science)

Influence of Climate on the Fruitfulness of Plants.

(By a Correspondent.)

The cultivated plants yield the greatest products near the northernmost limit in which they will grow.

I have been forcibly impressed with this fact, from observing the productions of the various plants, which are cultivated for food and clothing in the United States. The following instances will go far to establish the principle, viz.

The cotton, which is a tropical plant, yields the best staple, and surest product, in the temperate latitudes. The southern parts of the United States have taken the cotton market from the East and West Indies, both as regards quantity and quality. This is partly owing to the prevalence of insects within the tropics, but principally to the forcing nature of a vertical sun. Such a degree of heat developes the plant too rapidly—runs it into wood and foliage, which becomes injuriously luxuriant; the consequence is, there are but few seed pods, and these covered with a thin harsh coat of wool. The cotton wool, like the fur of animals, is, perhaps designed for protection; and will be thick and fine in proportion as the climate is warm or cold. Another reason is to be found in the providence of the deity, who aims to preserve races rather than individuals, and multiplies the seeds and eyes of plants, exactly as there is danger of their being destroyed by the severity of the climate, or other causes. When, therefore, the cares and labours of man counteract the destructive tendency of the climate, and guarantee their preservation, they are, of course, more available and abundant.

The lint plants, flax, hemp, &c. are cultivated through a great extent of latitude; but their bark, in the southern climates, is harsh and brittle. A warm climate forces these plants so rapidly into maturity, that the lint does not acquire either consistency or tenacity. We must go far north in Europe, even to the Baltic, to find these plants in perfection, and their products very merchantable. Ireland is rather an exception as to latitude; but the influence of the sun is so effectually counteracted there by moisture, and exposure to the sea air, that it is always cool: hence the flax and potato arrive at such perfection in that region.

It holds equally true in the farinaceous plants. Rice is a tropical plant; yet Carolina and Georgia grow the finest in the world, heavier grained, better filled, and more merchantable, than any imported into Europe from the Indies. The inhabitants of the East Indies derive their subsistence almost exclusively from rice; they must be supposed, therefore, to cultivate it with all skill and care, and the best contrivance for irrigation. Such is, however, the forcing nature of their climate, that the plant grows too rapidly, and dries away before the grain be properly filled. Indian corn, or maize, if not a tropical plant, was originally found near the tropics; and although it now occupies a wide range, it produces the heaviest crops near the northern limit of its range. In the West Indies it rises 30 feet in height; but with all that gigantic size, it produces only a few grains on the bottom of a spongy cob, and is counted on only as rough provender. In the southern part of the United States, it reaches a height of 15 feet, and will produce 30 bushels to the acre; in the rich lands of Kentucky and the middle states it produces 50 or 60 bushels to the acre, but in New York and New England, agricultural societies have actually awarded premiums for 150 to the acre, collected from stalks only seven feet high. The heats of a southern sun develope the juices of this plant too quickly. They run into culm and blade, to the neglect of the seed, and dry away before fructification becomes complete.

Wheat is a more certain crop in New York, the northern part of Pennsylvania and Ohio, and in the Baltic regions of Europe, that in the south either of Europe, or America. In the north, snows accumulate, and not only protect it from the winter colds, but from the weevil, Hessian fly, and other insects that invade it; and in the spring it is not forced too rapidly into head without time to mature fully, and concoct its farina.

A cold climate also aids the manufactoring of flour, preserving it from acidity, and enables us to keep it long, either for a good market, or to meet scarcities and emergencies. Oats grow in almost every country, but it is in northern regions only, or very moist or elevated tracts, that they fill with farina suitable for human sustenance. Rye, barley, buckwheat, millet, and other culmiferous plants, might be adduced to illustrate the above principle; for all their habits require a more northern latitude than is necessary to their mere growth.

The grasses are proverbially in perfection only in northern and cool regions, although they will grow every where. It is in the north alone that we raise animals from meadows; and are enabled to keep them fat, and in good condition, from hay and grass alone, without grain. It is there the grasses acquire a succulence, and consistency enough, not only to mature animals, but to make the richest butter and cheese, that contribute so much to the tables of the luxurious. The grasses which do, often, in the south, grow large enough, are without richness and nutriment; in hay, they have no substance; and when green, are too washy to fatten animals; the consequence is, most animals in those latitudes browse from necessity, and are poor, and without size or beauty. It is the same hot sun which forces them to a rapid fructification, before they have had time to concuct their juices. The sugar cane produces, perhaps, better where it never seeds, than in the tropics; for the juices will never ripen so as to granulate, until checked by frost or fructification. In the tropics, the cane grows, twenty months before the juices ripen, and then the culm has contracted a woody, fibrous quality, to such a degree as to resist the pressure of the mills, and yield but little juice, and that to an increased effort. In Louisiana we succeed well with the sugar culture; because, whilst the culm is succulent and tender, a white frost checks the growth, ripens the juices, and in five months gives us a culm, tender, full of juice, easy to press, and yielding much grain of sugar. When Louisiana, therefore, acquires all the necessary skill, she will most probably grow this article cheaper than the West Indies.

Tobacco is a southern plant, but there it is always light and chaffy; and although often well flavoured, it never gains that strong narcotic quality, (which is is its only peculiar property,) unless you grow it as far north as Virginia. In the south, the heat unfolds its bud or gem too soon, forces into full expansion the leaf, and drives it to seed before the narcotic quality can be properly elaborated. We may assert a general rule applicable to all annual plants, that neither the root, nor the leaf, acquires any further size or substance after fructification.

The tuberose, bulbous, and other roots, cultivated for human and animal subsistence, are similarly affected by climate, and manifest habits in corroboration of the above principle. The Irish potato, although from or near the tropics, will not come to perfection but in northern or cool countries, or in moist, insular situations, as Ireland. It is in such climates alone, that its roots acquire a farinaceous consistence, and have size, flavour, and nutriment enough to support, in the eminent way in which they are susceptible, animal life. In the south, a forcing sun brings the potato to fructification before the roots have had time to attain their proper size, or ripen into the proper qualities for nourishment. In Ireland the plant grows slow, through a long and cool season, giving time for its juices to be elaborated, and properly digested; hence that fine farina and flavour which characterizes them. The sweet potato produces larger, better flavoured, and more numerous roots in Carolina, where it never flowers, than in the West Indies. In the latter place this plant runs wild, covers the whole face of the earth with its vines; and is so taken up in making foliage, that the root becomes neglected, and is small and woody. In order to have the onion in perfection, it must grow through two years, swelling all the time its bulbs. In the south, however, it seeds in one year, and before it has made much bulb. Beets, carrots, parsnips, turnips, radishes and other roots, are equally affected by a hot sun, and scarcely worth cultivating far to the south. They all fructify before they have formed perfect roots, and make foliage at the expense of their bulbs; hence they will always be articles of commerce; the south will have to depend upon the north for them.

The sallad plants are in like manner affected by the climate, and give further proofs of our assumption. Cabbages, lettuces, endive, cellery, spinnage, plants whose leaves are only eat, to protect their germs from cold, (through a kind of instinct,) wrap them up in leaves, which form heads, and render many of their other parts tender and crisp for use. These leaves, thus protected, are not only tender, but more nutricious, because their growth has been slow, and their juices well digested. In the south, a relaxing sun lays open the very buds of such plants, gives a toughness and thinness to the leaves, and they are too unsubstantial for animal support, because of such quick and rapid development.

The delicious and pulpy fruits are, in a still more striking way, illustrative of our principle. The peach, nectarine, plum, apple, cherry, currant, gooseberry, apricot, and many other such families, are not in perfection in the south. It is in Pennsylvania, Virginia, Maryland, Jersey, and in the north of Europe, that we enjoy them, although, originally, they came from places near the tropics. The peach of the Carolinas is full of larvæ, gum, and knots, and too stringy and forced to be juicy and flavoured. The apple of the south is too acerb to be either eaten or preserved. The plums, apricots, cherries, currants, gooseberries, &c. will not even mature until we go far north. All the trees which bear these delicious fruits will grow luxuriantly in the south, make much foliage and wood with but little pulp, and that unsavory. The kernel in one seeded fruit, seems to be the first object of nature in southern climes: that becomes strong, oily, and enlarged; and one of the peach family has so entirely neglected the pulp, that it has only a husky matter around the kernel, as the almond. The changeableness of the weather in the south, in the spring season throws plants off their guard; the frost attendant on those changes, destroy the young fruit; and it is only once in three years that the crop hits at all. The dissicated or dried state of these fruits enables us to enjoy them through the year; but in the south their acidity carries them into fermentation or decomposition before they can be divested of their aqueous parts. The climate of the south is equally against converting them into cider, or any other fermented liquor, because the heat forces their compressed juice so rapidly into an active fermentation, that it cannot easily be checked until it passes into vinegar. For the same reason distillation goes on badly in hot climates, and cannot be checked long enough at the proper point to give much alcohol; and whether we aim to enjoy the delicious freshness of these fruits themselves, sip the nectarin of their juices, refresh ourselves with their fermented beverage, stimulate our hearts with their brandies and cordials, or feast through the winter upon the dried or preserved stores of their fruits, we are continually baulked by the severity of a southern climate, and for such enjoyment must look to the north.

The melons are always affected by too great a degree of heat, even though their vines flourish so much in southern latitudes. The forcing sun hurries them on to maturity before they have attained much size, or acquired that rich saccharine and aromatic flavour for which they are so much esteemed. The cantelope melon will rot, or have its sides baked by a hot sun, before it is fully formed; and the watermelon is always woody, dry, and devoid of its peculiar sweetness and richness in the south. Vines have been known to run 100 feet, and bear no melon. It is in Philadelphia and its neighborhood, and in similar latitudes, that the markets are loaded with delicious melons of all sorts, whose flavour so much refresh and delight us. It is there, near their northern limit, that we cultivate them with such uniform success.

The orange, strictly a tropical plant, is more juicy, large, and delicious, at St. Augustine, (Florida,) than at Havana; and fruiterers, in order to recommend an orange, will say that it is from some place out of the tropics. In the West Indies, the pulp of the orange is spongy, badly filled with juice, and has too much of a forced flavour to be pleasant. The hot house forcers of Europe, or at Rome, anciently at first produced bad fruit; too dry, too small, and without flavour; because they overacted. They have lately found out that fact, and now the productions of the hot-houses of London, Paris, &c. astonish and delight us with the quantity and excellence of the fruit. They have found out that gradual and uniform heat is the desideratum; countervailing the cold, rather than imparting much heat. Fruit thus produced, is pronounced better than any grown in the natural way, however perfect the climate.

The juices of the grape are best matured for wine near the northern limit of their growth. On the Rhine in Hungary, the sides of the Alps, and in other elevated or northern situations, the wine is strongest, richest and most esteemed. The French wines rank before the Spanish and Italian; and in no southern country of Europe or Africa, except Madeira, where elevation makes the difference, is the vine in much repute. The grapes of France are more delicious for the table than those of Spain or Madeira. In the southern part of the United States, the excess of heat and moisture blights the grapes to such an extent, that all attempts have failed in its cultivation. The grapevine, however, whether wild or cultivated, grows there very luxuriantly. The vinous fermentation can also be best conducted in a climate comparatively cool; and all the pressing, fermentating, and distillation of the juice of this delicate fruit, can be safer and more profitably managed in a mild region.

The olive, and other oleaginous plants; yield more fruit, of a richer flavour, and can be better pressed, and the oil preserved, in a mild climate. In France the tree is healthier, and the fruit and oil better than in Spain or Italy; and the Barbary states are known to import their oil from France and Italy.

Many other plants might be named, whose habits would equally support our position. It is presumed, however, that enough has been cited to call the attention of philosophy to this curious subject, and enable us to give proper attention to it, in all the practical operations of agricultural pursuit. Much time and expense might be saved, and profits realized, if this were more generally understood.

We have already observed, that the heat of the sun in southern climes forces plants to a false maturity, runs them on too rapidly to fructification, and renders dry and woody the culms, stalks, and leaves of the plants, where these parts are used. Hence the chaffiness of the leaf, the dryness of the culm, the lightness of the grain, and the unsavory spungy quality of the pulp of the plants in those latitudes. Hence the difficulty of fermenting their juices, distilling their essences, and preserving for use the fruit, juice, or blades of such plants. The prevalence of insects is another bar to the productiveness of southern plants: swarms of them invade and strip the leaves; bore the fruit, and lead to blight and decomposition; and just in proportion as the labors of man have rendered plants succulent; and their fruits and seeds sweet and pleasant, do these insects multiply on them, devour their crops, and defeat the objects of husbandry.

The labour of man too is more conservative in northern climates, because his arm is better nerved for exercise, his health and spirits more buoyant; and instead of saying, "go and work," he says, "come and work;" treads with a cheerful heart upon his own soil, and assists in the cultivation, collection, and preservation of his own. It is in temperate climates that man can be most familiar with nature; it is there he has the best opportunities of observing the guarantees which nature has for the preservation of her animals and plants against the devastation of the elements; he sees an occasional apparent neglect of individuals, but a constant parental care of races. In every thing he sees the wisdom and benevolence of God. W.

(From the Southern Agriculturist.)

Account of some Experiments made in the Culture of Clover.

"*Rocky Grove, Abbeville District, 29th April*, 1831.

Dear Sir,—The correctness of the opinion so generally prevalent throughout our State, that the heat of our sun is too intense and our soil too acid for the successful cultivation of red clover, is now much questioned; and as a spirit of inquiry on this subject, so important to us, is awakened, an account of two experiments made with red clover in this neighbourhood, may be acceptable to some of your readers.

In the spring of 1823, Col. B. H. Saxon, sowed in a lot used as a plantation garden, a little red clover seed in two parallel drills about 60 feet long, and at some distance from each other. It came up well, was frequently hoed and kept clean, and grew luxuriantly. It was allowed to go to seed and shed its seed on the ground. The spring was a wet one, or rather what planters term a dripping season. The soil a deep, rich, black earth, somewhat inclined to be moist, with a stiff clay at the bottom. The year after, the space between the drills was covered with clover, as well as a considerable distance on both sides; and although it was a very dry year, the clover grew luxuriantly. It was not cut, but allowed to go to seed. The third year the lot was added to the adjoining field and the clover was ploughed up and the field planted with Indian corn. The clover appeared to have been completely destroyed. The fourth year wheat was sown in the field, and when cut, the clover was found to be thick on that part of the ground where it had been growing two years before. It was suffered (the fifth year) to remain, and it grew with such luxuriance as to attract general attention. It was not mowed, but suffered to go to seed and the seed gathered. The two next years (sixth and seventh) the ground was again ploughed up and planted in cotton. The next year (eighth year) it was sowed with wheat, and this year (the ninth) has been planted in cotton. There is now a great deal of clover to be seen on the ground.

With the seed collected from this little patch of clover, Col. Saxon sowed about one-fifth of an acre in 1829, in the following manner. In February, he sowed oats, ploughed it in, levelled the ground by dragging a heavy brush over it, and sowed thereon the clover seed. When the oats were cut early in July, so little clover was to be seen, that it was considered as a failure, and no more was thought of it until late in the fall, when the patch appearing very green; an examination took place and the ground was found to be well covered with clover. The clover grew finely, and in June, 1830, was cut, and yielded a heaped up wagon-load of excellent hay. This clover patch was really a beautiful sight before it was cut. The second crop was permitted to go to seed and the seed gathered, with which Col. Saxon sowed last February a few acres upon oats, as he had done in 1829. This patch of clover is now in luxuriant growth, is beginning to bloom, and will shortly be fit to mow.

I have learnt that in the neighbourhood of Cambridge, several persons have, for a few years past, cultivated red clover in small patches with success, for the purpose of cutting and feeding away when green. The soil in that neighbourhood is a mulatto soil, which invariably is high, loamy, with a stiff clay below and generally loose and very deep.

These instances of the successful cultivation of red clover in this state, together with those already recorded in first volume of Southern Agriculturist, pages 250, 251 and 399, where success has been shown to attend its culture near the sea-board as well as near the mountains, will, I hope, induce some of the planters and farmers of our state, to make more extensive experiments with this most valuable grass, and communicate their result for the benefit of others. I am informed that Mr. J. E. Colhoun is cultivating it to some extent and with considerable success in Pendleton District; if so, I hope that gentleman will favour your readers with another communication on the subject. Respectfully, Thomas Parker.

HORTICULTURE.

NEW COMPOST FOR FLOWER POTS.

Mr. Smith:

In looking over the late numbers of the American Farmer, I perceive that you are more anxious to obtain practical information on the subject of agriculture, than fine spun theory. If therefore, the following experiment of my own shall be thought worthy a place in your valuable paper, I shall be amply rewarded for my labour in writing it; and if it shall be so fortunate as to add any thing to the economy of the *cultivation of the earth,* it will not be thought less valuable, perhaps, because furnished by a lady.

I have been from my childhood passionately fond of horticultural pursuits,—have devoted much time to ornamental gardening; and in my travels I have gleaned all the information in my power on the subject of fertilizing the soil. In the summer of 1824 I was in Albany, and visited Judge Buel's plantation, which was in the highest state of cultivation, and which as every one knows, is indebted to art alone for its fertility,—having been *cut and made* from an entire swamp. I walked the whole ground over with the judge and his lady, and treasured up many curious facts, relative to gardening, which I have since practised upon, in a small way, with great success. Since that time I have also visited the most celebrated gardens in and near Boston, Hartford, New York, and Philadelphia;—but in those places they have the advantage of a naturally good soil, and do not require so much artificial aid to produce large growths of either esculent or ornamental plants, which is necessary, in order to produce the same growth from the less fertile soil, in and around Baltimore.

Last winter, soon after my arrival in Baltimore, a friend presented me with an Oleander, which had spun up to an unwieldly height, but the leaves were very dwarfish; and yet small as they were, the stalk was so slender, as scarcely to be able to support the scragy top. It looked so little like the broad leafed, thick limbed Oleanders I had seen at the north, that I almost doubted its being the same species of plant. About this time I saw in Messrs. Calvert & Ducatel's paper directions for obtaining large growth of cabbages, and I resolved to try the experiment on my dwarf-leafed Oleander. Accordingly, as soon as the spring opened, I procured some common red earth, which was of a very tenacious clayey consistence—spread it upon a wide board—overlaid it with a strata of lime, which I slaked—not with sea-water according to the directions, because I could not procure it—but with rain water into which I had previously put sufficient common salt to make it about like sea-water to the taste. I then laid another strata of earth, and then again of lime, making two of each, and the whole made moist with salt water. I then added four quarts of river sand as an improvement of my own; for, although the receipt did not name it, I took the liberty to judge that so much clay as the earth contained would adhere again in a mass without the aid of sand or something to separate its particles. The whole measured about two thirds of a bushel, one third of which was lime and sand. A servant stirred it regularly for me every day until the ingredients were well incorporated, and in three or four weeks it had entirely lost its redish colour and had become quite black. About the middle of April I cut off the top of the Oleander, down within two feet of the roots and trimmed off all the ground shoots and some of the branches. I did not transplant it as it grew in a large tub, but removed all the earth from the top and sides of the roots—at least half a bushel of it, and filled up the tub with the new preparation. It was then placed in the yard in a southern exposure where it has ever since remained subject to the sun and rain, and copious waterings from the pump as often as the earth became dry,—and such a rapid and luxuriant growth I never witnessed. My friends told me at first that I had killed my Oleander—and I confess I had some misgivings as to the success of the experiment; but in less than two weeks after the application of the new earth, new leaves began to put forth surprisingly, and their enormous size and bright green lustre have been the subject of much comment among its numerous admirers. It is now in blossom, and on measuring the new growth which is easily ascertained by the increased size and brilliancy of the leaves, I find it to be, now the first week in July, just 16 inches. The main stalk and limbs have also increased in the same ratio. Enclosed is a specimen of the leaves, both the old and new, just as they grew upon the branch. The smallest is one of the last of last year's growth, and the largest is one that grew directly above it of this year's growth. I have since tried the same experiment on geraniums and other plants growing in pots, with equal success. I send you the leaf of a rose geranium which was a small cutting with only four very small leaves that I planted in some of the same earth the first week in May.

Would not our gardeners and farmers be abundantly rewarded for the labor and trifling expense which the like process on a larger scale, would cost them? S.

[We are much indebted to our fair correspondent for the above excellent article, and hope for a continuance of her favors. On measuring the two leaves of the Oleander we find them as follows: the old leaf 2 5-8 inches in length, 3-8 of an inch in width; the new leaf nine inches in length and one inch and 5-16 in width. The leaf of the geranium measured 6½ inches in width. Both plants certainly afford good evidence of the excellence of the compost.]

(From the New England Farmer.)

Description of a Method for propagating Fruit Trees, and Forest Trees, not as yet generally practised in Europe, or the United States.

The account of the method here in question is taken from the Philadelphia Medical Museum, published by Dr. John Redman Coxe, vol. vi. p. 165.* Similar accounts are to be seen in Sir George Staunton's Relation of Lord Macartney's Embassy to China, and other publications. Its familiarity to the Chinese is known from their introducing fruit trees, formed in this manner, into their deserts. The statement is the rather borrowed however, from Dr. Howison's report, as he practised the method himself, and suggests the propriety of using it to other trees, not bearing fruit, when they do not produce seed in the country where they are cultivated.

Of the Chinese Method of propagating Fruit Trees by Abscission. By Dr. James Howison.—"It is said the Chinese do not raise *fruit* trees from *seeds or grafts,* as is customary in Europe, but in the following method. They select a tree which they wish to propagate, and fix upon a bunch, which will disfigure it the least by the removal; and round this, as near as conveniently it may be to its junction with the trunk, they wind a cord made of straw, besmeared with cow dung, *until a ball is formed five or six times the diameter of the branch. This is intended as a bed* into which young roots may shoot. Immediately under the ball the bark is divided down to the wood for *nearly two thirds* of the circumference of the branch. A cocoa nut shell, or a small pot is then hung over the ball, with a hole in the bottom; so small that water therein will only fall in drops; by which means the rope is constantly kept moist; a circumstance necessary for the ready admission of the young roots, and for the supply of nourishment to the branch.

"When the vessel has been supplied with water for three weeks, *one* third of the remaining branch is cut; and the former incision carried deeper into the branch, as by this time roots have struck into the rope, and assist in giving support.

"After a similar interval, the operation is again repeated; and in about two months from the *commencement* of the process, the roots are generally seen intersecting each other on the surface of the ball; which indicates that they are sufficiently advanced to admit of the separation of the branch from the tree. And this is best done by sawing it off at the incision; taking care that the rope, (which must have become nearly rotten) is not shaken by the operation; and then the branch is planted as a young tree.

"It is conceived that a longer period would be necessary to succeed with this operation in Europe, because vegetation is so much slower than in India (where Dr. Howison made his experiments;) but he thinks that an additional month would be adequate to make up for deficiency of climate.

"The *advantages* of this method are stated to be, that a further growth of three or four years, is sufficient, when the branches are of any considerable size, to bring them to their full bearing state; whereas eight or ten years would be otherwise necessary. This he saw proved at *Prince of Wales' Island.* (Between the islands of Sumatra and Java.)

"The writer's experience does not allow him to speak of the success with which this method might be applied to *fruit trees;* but he little doubts of its succeeding; and the adoption of it is recommended at all events in multiplying such plants, natives of warmer climates, whose *seeds do not succeed in this country.*

"Dr. Howison has besides frequently remarked; that such branches of *fruit trees,* as were under the operation of abscission at the time of bearing, were more laden with fruit, than the rest of the trees, which is attributed to a plethora or fulness, occasioned by the communication between the branches and the trunk being cut off by the division of the bark. And he has observed that the roots from a branch under this operation were *longer in shooting* into the ball of straw, when the tree was in leaf than at another time:—on which account he recommends the *spring* as the best season for making experiments."

The quotation from the American Museum here concludes.

It is proper to add, that though the division as to the bough which is to form the new tree, should be made at the place above directed, yet care must be taken not to leave a *stump behind* on the parent tree, for this would damage the stock for the sake of the new tree. The stump, therefore, must next be cut off *close to the main branch*, from which it was taken; that the wound may heal *by bark spreading to cover the wound* from the right and left, and from above the wound; not to speak of some little elevation of bark, which may arise from below the wound. The *bark*, it must be observed will never rise up and cross the *end* of a *standing stump*, but must be looked for as a cover to the branch out of which the stump grew. I am, sir, yours, A. B.

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* Dr. Coxe copied the above from the *London Retrospect,* which took it from *Trans. Soc. Arts. in London,* vol. xxv.

(From the Genesee Farmer.)

How to Preserve Varieties of Fruit.

It often happens, that gentlemen who have a taste for choice fruits, are disappointed, after having sent their orders to a distance for trees, paid their bills, and planted out their young trees with all the care possible, when after watching them from day to day, and from week to week, they find that some favorite tree will not even show a leaf, and they have the mortification to watch it, until it becomes a dry sapless faggot, fit only for the fire. Now all this is extremely trying to the feelings of the lover of good fruit, not taking into consideration the expense attending it. The kinds ordered from a distance, are of course such as cannot be obtained in the neighborhood, and the loss of a variety consequently puts the horticulturist back one year, if it does not wholly discourage him from repeating his order. Now such losses and disappointments, are easily prevented. When your tree arrives, let some of the best shoots be taken off and set in the ground for cions, and at a proper season, let them be grafted into some thrifty stocks, and you render your effort to obtain the variety a certainty, for we hold there is not a greater chance of failure in setting cions of apples, pears and plums, on good stocks, than there is in transplanting trees within the same garden when they are taken up, but as peaches and nectarines are more difficult to graft, we will describe a method, which we have practised this season, which seems well calculated to ensure the object of the introduction of varieties from a distance. My friend L. having procured some choice varieties of peaches from Long Island this spring, was lamenting the loss of some valuable kinds, which did not give any indications of life. He suggested that we should make an experiment by taking some of the buds from the drying limbs, and putting them into growing trees, by the process of scallop budding. I took one or two buds and fitted them in, and covered them with a piece of muslin, which had been dipped in grafting-wax, and have now the satisfaction of seeing a fine shoot growing from one of them six inches in length. I have within the past week, put in buds from one or two other trees, which are likely to fail, not having leaved, which now have the appearance of doing well.

We therefore recommend it to our readers, as well worth the experiment, that when any choice variety is procured from a distance, to graft or bud from it, as it increases the chances of preserving it, according to the number of buds or cions set.

Hitherto, the sending abroad for fruit, has been attended with circumstances, calculated to discourage the farmers and gardeners of Old Genesee: that is—a very great proportion of trees so obtained have failed, although packed with the greatest care. The very idea of losing has prevented many from sending, who would gladly have done it, were they certain of being able to secure, by that expense, the variety they wished. It has formerly been a practice with nursery-men not to sell cions from their choice varieties; but we believe that custom is now considered too transatlantic to be adhered to by our best horticulturists, and cions of any kind may now be obtained from them at fair prices, so that there is nothing now to prevent a rapid distribution of fine fruits; and any one that will, now may procure it. The connection of our Horticultural Societies with those of Europe, has brought every kind of valuable fruit, known either in Europe or America, within the reach of our farmers; and the direction for cultivating it is daily almost forced upon them.

Hampton Court Vine.

There is at present growing in the garden at Hampton Court, a grapevine of very large size, supposed to be nearly two hundred years old, and produces nearly one ton of grapes yearly. It is one of the largest in England, and is of that variety called the Black Hamburg, and the branches extend about 75 feet. It is enclosed in a grape house, as these grapes seldom ripen well in that climate; but in this country have produced two crops in one season.—*Ib.*

RURAL ECONOMY.

(From the Genesee Farmer.)

CURRANT WINE.

Never expecting to arrive at a competency that would enable me to enjoy the luxury of foreign wines, I was led to seek for substitutes in our home productions. Having never met with any currant wine that would answer, I turned my attention to cider, obtained sundry receipts for making cider wines and made experiments on them for several years, in order to make cider answer as the substitute for wine; but all my undertakings failed, leaving it to remain cider. Although considerable improvement can be made on the common mode of manufacturing cider, so as to make it worth three or four times the value of ordinary cider, yet the malic acid of the apple, will not afford the vinous flavor, like the tartaric acid of the grape.

I then began the culture of grapes, hoping that out of American grown grapes to be able to make a home made wine that would serve as an apology for the luxurious flavor of foreign wines.

It is only two years ago that I first met with a currant wine, at Oliver Phelps', in Canandaigua, that possessed a sufficiency of the vinous flavor to characterise it with the name of wine; all the others that I had drank of before, were deficient in the vinous flavor: they were too heavy and of a syrup taste, probably owing to the want of a just proportion in their ingredients.

But finding Mr. Phelps' so good an imitation of foreign wine I was induced to imitate it. Accordingly, I took his, and also Maj. John Adlum's receipt for making currant wine, (which I have annexed) and varying their process in obtaining the juice of the currant, to conform with Maj. Adlum's process for making wine of the grape, and last year made the following experiments:

I picked the currants about the middle of July, I had seven pecks, (instead of nine, as given in the receipt for a barrel of wine) washed and pounded them in an open barrel, and instead of pressing out the juice immediately, I covered the barrel with a board and left it to stand and ferment; but (instead of 12, 24, 36, or 48 hours, as Maj. Adlum prescribes for grape juice) by neglect I left them remain four or five days, when they had gathered some mould on the top; then pressed out the juice by hand; (a press of some kind would have lessened the labor, and to have added a few gallons of water would have obtained more extract from the currants, and also facilitated the straining of it) then, divided the juice into equal parts in order to make two half barrels; one with maple sugar and the other with honey.

To the one I added thirty-seven pounds maple sugar that had not been drained of its molasses, and sufficient water to make fifteen gallons of the whole; then tested its strength by putting in a *hen's egg*, (Major Adlum's handy and convenient substitute for the *Sacchrometer*) and found that it floated the egg, showing about the size of a shilling piece above the surface; then put up the must into the cask.

To the other I put forty-two pounds of strained honey, and water to make the quantity (fifteen gallons.) After the honey was dissolved, I also tested this with the egg, and found it to show a part of the shell above the surface about the size of a pistareen;—which clearly showed that honey contains as much saccharine, for its weight, as sugar.

The casks were put into the cellar to ferment and make, leaving the bungs open for a few days, then put them in loosely, and in ten or twelve days bunged tight.

In December it was racked off, when each cask afforded two gallons of lees in currant pulp; after racking, it was put back into the casks again, and fined with a pint of skim-milk, and left to stand.

In September I took about two bushel of peaches, (of the Columbian peach) pounded them up and left them to stand a few days and ferment, as I had done with the currants, from which, with some labor, I obtained about three gallons of juice, and to which I added two pounds of honey to the gallon, and tested it with the egg, and put it up in a small keg, for making.

In October I picked about half a bushel of the Isabella grapes, and spread them in the chamber for three or four weeks to dry; then mashed and put them into a stone jar, to ferment; by neglect, these were also left to stand nearly a week, when a blue mould had formed on the top, and the acetous fermentation had evidently commenced; from them I obtained about two gallons of juice, to which I added two pounds of honey to the gallon, which bore the egg to the size of a two shilling piece above the surface; then put the *must* into a stone jug to make.

Both of these were racked off and fined in December.

Owing to the Prussic acid of the peach, when assimilated with saccharine, not developing the vinous flavor, the like as the tartaric acid of the grape, the peach juice has produced a very inferior liquor in its flavor, although possessing a good body. It is of a pale white cider color, and a strong acid cider taste; so that I consider the experiment of making wine from peaches an entire failure.

That of the garpe juice is evidently injured by the acetous fermentation, when suffered to stand too long as before mentioned. It has a dark red Teneriffe color, approaching to the Burgundy, with a cooling taste, owing to the redundancy of the tartaric acid and fixed air. It has been rather an indifferent liquor, but is improving considerably by age, and gives indications that it would have been a successful experiment, had the quantity been larger, and the process been duly attended to.

The currant wine made of maple sugar has its color darkened to Teneriffe by the coloring matter, and its flavor rendered slightly bitter from the impurities of the sugar, clearly showing that the liquor will be improved in proportion to the purity of the sacharine used in making it. It has a slight tinge of the Malaga flavor, and nearly equal in its quality; it is a drinkable currant wine.

But that made of honey promises to become a superior article; it was a suggestion of my own, proposed to Mr. N. Goodsell, who at first objected to the experiment,—but having the ingredient, the produce of my farm, I preferred to venture it, and proposed to add a gallon of brandy, according to Mr. Phelps' receipt, should he consider the honey as wanting in giving a sufficient body to sustain the liquor; but he objected to that on Maj. Adlum's principle of developing the alcohol of wine, by fermentation, rather than by distillation, as making a more pure and wholesome liquor, and should we find it in danger of pricking we could then add the spirit.

During the first two or three months, the sugar promised to be the better liquor; but afterwards, the honey gained on the sugar until it was racked, when it fell back for a few weeks, but afterwards it regained, and continued to increase in superiority over the sugar. It has nearly the color of Madeira, perfectly fine and limpid, with a good body, and the spirit of the honey gives to it the exhilarating properties of *still* champaigne: its flavor denotes the unadulterated purity of its ingredients, and physicians have admitted it good for medicinal uses, next to Madeira, and by several persons it has been considered equal to the Sicily Madeira, which retails at two dollars. While computing the ingredients at their market price, and allowing something for the labor, it may be estimated to cost about fifty cents.

Those who do not produce honey, can procure the Havana honey in Rochester at one dollar the gallon, which is estimated to weigh thirteen pounds,—that would need to be clarified;—it can be put into a stone jar, and that into a kettle of water and boiled, which will boil the honey and allow it it to be skimmed: or add some of the water to fill the cask, and boil it in the kettle.

The manner in which I obtained the supply of honey in July, was by driving the bees, after they have done swarming, out of the old hive, into a new one.

As the honey was considered as a secondary experiment, I put it into an old half barrel I had on hand, which sprung aleak in the winter, and by the spring I had lost more than half its contents. *I propose* to get an iron bound cask, and have it painted for preservation. They can often be had of the merchants, after having retailed out their imported wines; and to retain their lees, and put the currant wine on those lees, will improve its vinous flavor.

J. HAWLEY.

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Oliver Phelps' Receipt for making Currant Wine.

Pick your currants in a fair day, when fully ripe, say between the fifteenth and twentieth July. Wash them in a tin cullender clean from dust, then put them into a clean flannel bag, and press out their juice. Measure it, and to every gallon of pure currant juice add two gallons of cold well water, and to every gallon of this mixture add three pounds of good clear brown sugar, the purer and lighter, the better, (excepting the Havana) and to every eighteen gallons of liquor add one gallon of the best French brandy.

When the whole is well united put it into a good clean cask; fill it nearly full, and put a piece of leather over the bung hole with a small weight on it. Take care that the cask is not so full as to work over, as this would injure the liquor, and after the fermentation has ceased, bung the cask as tight as possible. In the month of May following, it will be fit for use, or for bottling, as you choose. All this process must be done with neatness, and you cannot fail in having the first rate of currant wine.

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John Adlum's Receipt for making Currant Wine.

Take two bushels of currants, sixteen gallons of water, and from seventy-two to eighty-four pounds of sugar, (according as you would have it more or less strong.) Bruise the currants, add the water, then press or squeeze out all the liquid; then add the sugar, dissolve it, and put it into your cask in the cellar to ferment; keep some of the liquor to fill up the cask as it wastes by fermentation, and in about ten days bung it up tight, and bore a gimblet hole near the bung, and put a peg in it lightly, and in about a month drive it in tight; examine it in November or the beginning of December, and it will generally be found fine and bright, when it ought to be racked into a clean cask well fumigated with sulphur, and if it is not perfectly fine and bright, *fine it;* after which it may be bottled, or again racked into another cask, as above directed; when it will keep for years in the wood, and be improving.

By taking nine pecks of currants and eighty-four pounds of sugar, a whiskey barrel full may be made, holding from thirty-two to thirty-four gallons—if the cask is not quite full, fill it with water.

This mode of making currant wine, will make it more like a foreign wine, than any other I am acquainted with; and as almost every person who has a garden, has a number of currant trees, I give this receipt to enable them to convert such as are not wanted for jelly, into a very fine wine.

Note—Thirteen and a half pounds of sugar produce one gallon of liquid. The currants ought to be picked on a dry day, and the wine made the same day, otherwise it will take more sugar, and will not be so neat a wine as if the whole operations were completed in a day.

(From the New England Farmer.)

Preservation of Sweet Potatoes, Apples, Squashes, &c.

Mr. Fessenden,—Many experiments having been tried in the vicinity of Boston to preserve the sweet potato slips through the winter without success, I have thought the following observations may be acceptable to some of your readers.

After digging my sweet potatoes last fall, I packed a quantity of the slips down in a barrel with waste cotton, such as is obtained at the cotton factories for making into coarse paper and batting, (at 2 cts per lb.) with a layer of cotton and a layer of slips alternately, and then placed them away in a warm room, which we keep from freezing during the winter. On opening them in the spring, I found a part of them very fresh; but where they were too thick, they had created too much dampness and rotted. I also packed down two barrels of apples in the like manner, and found them in the spring much better preserved than any I ever before saw. I am informed that the New Jersey Quakers preserve their potato slips in leaves. As the cultivation of the sweet potato, is now becoming so general in this quarter, I hope and trust there will be some mode discovered to keep the seed without having to get them from New Jersey every spring. And I feel confident the one given above will be successful. I am also inclined to think, that ground plaster, as was mentioned in your 48th number, will answer this purpose.

I believe it is not so generally known as it ought to be, how to keep winter squashes, almost any length of time wanted; you have only to hang them up in a warm dry room. I have them now perfectly fresh, and their flavor as good, or better than when they were taken from the vines. Any room where they will keep dry and warm through the winter, will preserve them. One may be seen in Mr. Shepherd's bar room, at Concord, perfectly sound, which grew in 1829, and many of last year's growth.

Yours, &c. Edward Curtis.

Pepperell, June 21, 1831.

COTTON SEED OIL.

We are happy to learn, that the machinery of Messrs. Smith & Follet of Petersburg for hulling the cotton-seed, and extracting the oil, is meeting with much encouragement and success. The seed is first hulled—then subjected to pressure—the oil extracted —and the oil-cake is fed off to cows. We understand, that the cake is very hard, and has to be ground before used, into a powder something like mustard. This powder is mixed with the food of cows, and is found to be very nutritious; experiment proving that the same number of cows fed in this way yield considerably more milk than others fed in the usual manner. There are purchasers enough for the cake—and it sells well, for a profit. The oil is said to be very good—some method has been discovered by the patentees to clean it of impurities, and make it transparent—It is used not only for painting, but for lamp oil; being limpid, burning very brightly, and free from any disagreeable smell, &c. &c. It sells freely from 60 to 70 cents per gallon. By good management, we understand the establishment, though not on the largest scale, yields a handsome profit to its enterprising proprietors.

And the cotton-seed too, is not to be had on nearly as good terms as in the regions of the South. They have to purchase the cotton in seed, giving a little more for it in order to invite it to their factory—and they gin it, and then operate upon the seed for oil. Less cotton too, is recently grown in the neighboring country, in consequence of the lands being more turned to wheat. If such factories were established in S. Carolina, Georgia, &c. in the very midst of the cotton-seed, as it were, the raw material could be had for little or nothing—and with much less trouble, and much more profit, the oil could be extracted, and turned to more account. Such machines, we should suppose, would be a great treasure to the cotton States: and when associated with the ginning machines, would be the next valuable acquisition to that great invention. We are happy to hear indeed, that these gentlemen are making out very well with their machines, and selling out many patent rights to the Southern States. They are ingenious mechanics, and valuable men. [*Richmond Compiler.*

ELDER.

The expressed juice of elder leaves will kill skippers in cheese, bacon, &c.; and strong decoctions of the leaves or roots are fatal to insects, which depredate on plants in gardens, &c. Dr. Willich observes, that "the leaves of the elder are eaten by sheep, to which they are of great service when diseased with the rot; for if placed in a situation where they can easily reach the bark and young shoots, they will speedily cure themselves." Dr. Elliott observed in his *Essay on Field Husbandry*, that "elder bushes are stubborn and hard to subdue, yet I know by experience, that mowing them five times a year will kill them.—*N. E. Farmer.*

THE FARMER.

Baltimore, Friday, July 15, 1831.

Gama Grass.—The following letter on the subject of gama grass, will be read with intense interest by all our agricultural friends. We have carefully examined the head of the grass which accompanied the letter, and find it beyond all doubt to be the *Tripsacum Monostachyon* of botanists. Elliott describes it clearly, and in Loudon's Encyclopædia of Plants the description is illustrated by a drawing, which corresponds with the head we have received so exactly, that, even were its botanical character not clearly defined, we should have no room to doubt its identity. We regret that our correspondent in the hurry of preparing his communication, has omitted to indicate his place of residence—even the usual postmark is omitted on the envelope. We beg our correspondent to favor us with as much of the seed as he can spare, and we will take good care to test its adaptation to our climate and to give it as wide a distribution as the quantity he may send us will allow of.

Mr. Smith:

In your valuable "Farmer" of the 29th April, I find a short (I presume) editorial communication on the subject of the "*gama grass.*" The one from the "Mobile Register" I forwarded to that paper, the grass it alludes to having been procured by me from Doctor Hardeman of Missouri. Mr. W. D. of Pennsylvania confines its value, I presume he means its *productiveness,* to *prairies,* and low wet grounds. This statement being so pointedly at variance with my experience, induces me to state to you that my plat of this grass is on a perfect sandy pine land, on a strata of red clay. That this soil is found amongst the *driest* known is well ascertained. Some cause not fairly ascertained must have been unfavorable to this gentleman's trial of this grass, or mine and his cannot be the same. On my dry sandy land *manured*, I am perfectly certain that by cutting every *fifteen days* the production would exceed *three hundred thousand pounds of green grass per acre*, during the months we can cut it in this climate, say from the 1st of May to the 1st of November.

By adding calcarious matter to the soil I am equally certain that it would be produced in greater quantity, its native spot being a limestone land of the kind usually called soft or rotten limestone, a species of limestone found in all prairie lands.

Last year was the most trying drought perhaps ever known through this section of country. This grass was nearly as luxuriant as the previous season. When all surrounding vegetation was literally burnt up, it was green and flourishing. During the month of July it grew forty-three inches. We have copious dews. With the section of prairie country sweeping from Georgia to Missouri I am well acquainted, and their vegetable productions, especially grasses. I have never seen this grass east of the Mississippi.

The seed stalks now about six feet high are in full seed, and a bloom hanging from the seed resembling the bloom on rye, but of a *reddish* cast. I have inclosed you a blade of *eighteen* days growth, and a head of the seed (a short one) in bloom. When cut at fifteen days it is peculiarly *sweet* and delicate, but I presume not so nutritive as when at its full height, which appears to be about four feet, and which it reaches in about a month. I have been particularly attentive to the *tall* grasses of this and the adjoining states, and have never been able to find it amongst them—although many that resemble it. When the gama grass is made into hay it becomes of a singularly agreeable flavor—it is easily cured—*twelve pounds of green* making five pounds of *hay*

I will forward you a few of the seed, and from them alone it can readily be determined whether this grass is found in the old states. I am strongly of the opinion it is not, and that it is one of the *native* productions of the south west. How your climate may suit it I do not pretend to say, but *this* produces it admirably. It has an astonishing root, not only for penetrating the earth but in diameter. The fourth year many of the plants shew a root of ten inches in diameter at the surface of the ground. From the manner in which they grow, I am satisfied, with us, that the plants set at two feet apart would find the roots meeting in 6 or 7 years, and that the ground would be completely occupied by them. This *grass* stands up handsomely for cutting with the sickle or scythe, the blade proceeding from the root almost—and consequently would be admirable for soiling. Its singularly nutritive qualities are well attested.

I have been in the habit of placing the signature of "*Agricola*" to all communications of an *agricultural* kind which I have made for years back.

Very respectfully, your obedient servant,

James Magoffin.

Horticultural Society.—We observe that a correspondent of the Annapolis Republican approves highly of the proposition to form a Horticultural Society, and suggests that the meetings and exhibitions be held at Annapolis. The place of meeting is a matter of secondary consideration; let us first establish the society—to this main object we should direct all our energies, and we hope that no sectional or other minor interest will be allowed to interfere with our efforts.

Our suggestions relative to the formation of a Horticultural Society, we are happy to say, meet the approbation of all with whom we have conversed on the subject. The only obstacle to its immediate commencement appears to be a fear that sufficient means cannot be obtained. We believe that the city of Baltimore alone could form and support an institution creditable to the state; and that the state at large could furnish members and means for a Horticultural Society second to none in the Union, and we do hope that this peculiarly favorable opportunity will not be allowed to pass unavailed of.

We are glad to hear more favorable accounts from the Eastern Shore harvest---there will still be much of the wheat saved. From the upper conntry the accounts of the harvest are favorable.

Richmond, July 6.

Four hhds. tobacco were sold last week, at an average of $17.75 cts. per hundred. There is very little doing in flour at former prices—new wheat may be expected in market in a few days.—*Compiler.*

Prices Current in New York, July 9.

Beeswax, yellow 22 a 23. *Cotton*, New Orleans .10 a .12; Upland, .8½ a .10½; Alabama, .8 a 11½. *Cotton Bagging*, Hemp, yd. 16 a 20; Flax 12½ a 16; *Flax*, American, 7 a 8.-----*Flaxseed*, 7 bush. clean .---- a .—— *Flour*, N. York, bbl. 4.75 a 5.00; Canal, 5.12 a 5.50; Balt. Hwd.st. ---- a 5.25; Rh'd. city mills —— a —— country, 4.75 a 5.00; Alexand'a, 4.75 a 5.12; Fredericksburg 4.62 a ---; Petersg. 4.62 a 4.75; Rye Flour, 3.50 a 3.75; Indian Meal per bbl. 3.37 a 3.50; per hhd. 17.00 a 17.25; *Grain*, Wheat, North, --- a ---; Vir. 90 a 1.00; Rye, North, 72 a 73; Corn, Yel. Nor. 66 a 70; Barley, — a —; Oats, South and North, .32 a .37; Peas, white, dry, 7 bu. 5. Beans, 7 bu. 7.00 a 8.00. *Provisions*, Beef, mess 8.50 a 9.25; prime 5.75 a 6.25; cargo 4.62½ a 5.00; Lard, 9 a .10½; Pork, mess, bbl. 14.50 a 15.25; prime 10.50 a 11.50.

RUTA BAGA SEED.

The subscriber has a small quantity of Ruta Baga seed, of an excellent quality, for sale, price 75 cents per lb. The season for sowing this seed is near at hand, and application should be made soon.

Also, *tall meadow oat grass seed* at $2.75 per bushel—this should be ordered soon for fall sowing.

GIDEON B. SMITH,
American Farmer Office.

J. S. EASTMAN,
No. 36, West Pratt Street,

OFFERS, at *Wholesale and Retail*, Hay and Manure FORKS, and Scythe SNEADS.—Also for sale, Grain CRADLES, and Cradle SCYTHES, Grass SCYTHE, English and American, with and without Sneads, Wheat FANS. Scythe STONES, &c. &c. Together with his usual assortment of PLOUGHS, and other AGRICULTURAL IMPLEMENTS, Garden Seeds, &c.

A fresh supply of FLOWER SEEDS, just received from the Messrs. Landreth's.

June 3.

WOOL WAREHOUSE.
LYMAN REED,
Commission Merchant, No. 195 *Baltimore street,*

Devotes particular attention to the sale of WOOL. Any consignments of the article forwarded to him for sale, can be disposed of immediately for CASH, at the highest market price.

CASH, and a fair price, will be paid for a few thousand pounds of *good wool*, (if offered immediately,) to supply orders now on hand.

Refer to Messrs. Cobb, Wyman & Co. Baltimore.

CASH FOR WOOL.

The subscriber is in this market as a purchaser of wool for eastern manufacturers, and will pay cash and fair market prices for every description of American wool. RICH'D MESSITER,
No. 5 Light street wharf, up stairs.

May 20. 2 m.

AGRICULTURAL BOOKS.

A general assortment of Agricultural Books kept constantly for sale at this office.

BALTIMORE PRICES CURRENT.

Baltimore Market.--There is no change whatever in flour or grain, except for fresh ground Howard street flour, which commands $4.75 from wagons. We exceedingly regret that an accident has ruined our quotations of wool for two weeks past. They are now correct, and care will be taken to guard against a recurrence of the error. The price of beef has declined still further, our quotations embracing both extremes.

Tobacco.---Seconds, as in quality, 3.00 a 5.00; do' ground leaf, 5.00 a 9.00.---Crop, common; 3.50 a 4.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 10 00; yellow and red, 8.00 a 14.00; yellow, 14 00 a 16.00.—Fine yellow, 16.00 a 20.00.--Virginia, 4.00 a 5.00.—Rappahannock, 3.00 a 4.00——Kentucky, 3.50 a 8.00. The inspections of the week comprise 310 hhds. Md.; 25 hhds. Ohio; 7 hhds. Kentucky; and 2 hhds. Pennsylvania;—total 344 hhds.

Flour—best white wheat family, $6 00 *a* 6.50—super. Howard-st. 4 81¼ *a* 4.87½; city mills, fresh, 5.00 Susq. 4.50 *a* ---; Corn Meal, bbl. 2.25; Grain, Md. red wheat, 90 *a* 1.00; white do. 1.05 *a* 1.15, Susq. 1.05 *a* 1.09-Corn, white, 60 *a* -- yellow 61 *a* 63-Rye, 60 *a* 61. Oats, .33 *a* 34. Beans, 75 *a* 80--Peas, 65 *a* 70—Clover-seed —— *a* ——Timothy, 2.00 *a* 2.50—Orchard Grass —— *a* ——-Tall Meadow Oat Grass 2.75--Herd's, 50 *a* 75---Lucerne 30 *a* 37½ lb.——Barley, ---Flaxseed --- *a* ——Cotton, Va. 9 *a* 9½--Louisiana 10¾ *a* 11½—Alab. 9½ *a*. 11—-Tenn.. 9 *a*. 10——N. Car.. 9 *a*. 9½——Upland 8 *a* 9½—Whiskey, hhds 1st p. — *a* 34—; in bbls 35 *a* 37----Wool, *Washed*, Prime or Saxony Fleece 60 *a* 67; American Full Blood, 56 *a* 60; three quarters do. 52 *a* 56; half do. 47 *a* 52; quarter and common do. 42 *a* 47. *Unwashed*, Prime or Saxony Fleece, 40 *a* 43; American Full Blood, 37 *a* 40; three quarters do. 35 *a* 37; half do. 33 *a* 35; quarter and common, 30 *a* 33——Hemp Russia ton, $255 *a* —; Country, dew-rotted, 6½ *a* 7½c. lb. water-rotted, 7½ *a* 9c.-Feathers, 35 *a* 36; Plaster Paris per ton, ---- *a* 4.00, ground, 1.37½ *a* — bbl. Iron, gray pig for foundries per ton 33.00 *a* ——; high pig for forges, per ton, 28.00 *a* 30.00; bar Sus. per ton, 72.50 a 80.00.—Prime Beef on the hoof, 5.00 *a* 5.50—Oak wood, 3.00 *a* 3.25--Hickory, 4.25 *a* 4.50—Pine 2.00 *a* 2.25.

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EDITED BY GIDEON B. SMITH.

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AGRICULTURE.

(From the Southern Agriculturist.)

Account of the Management of Pushee, the residence of Dr. Henry Ravenel; *by the Editor.*

Were it possible to obtain from the different sections of this and the adjoining states, an account *in detail* of the management of a few of the best plantations in each, much interesting matter would be obtained, and by giving publicity to the practices of districts distant from each other, yet cultivating the same articles of food or commerce, much benefit would arise, by enabling the planters to compare the various practices and plans—detecting those which are erroneous in their own, and adopting those which appear better in others—much valuable information might in this way be collected which now is entirely lost, because it is believed to be of little or no value, by those in whose possession it is. There is much done on every plantation which is worthy of being noted, but because it happens to be an every-day business, it is overlooked and undervalued. There are, also, many things which appear too trifling to be made the subjects of special communications, which in connexion with other matter, would prove both useful and interesting. But how shall this be obtained? We have in vain endeavoured to get it from those who could furnish it. There remains, therefore, only one other way, and that is by making an agricultural tour, throughout the various parts of the southern states. We cannot, at present, carry this into effect, whatever we may be able hereafter to do. In the mean time, however, we intend availing ourselves of such opportunities as we may have of obtaining information, by inspecting the operations on such plantations as we may visit, and by conversing with such planters as we are in the habit of meeting with yearly in our city. In every instance, where we can with propriety, we will give the names of the parties from whom such information is obtained, but, whenever, from any cause, it is withheld, we hold ourselves responsible for the respectability of the author.

It was during the month of March last that we paid a short visit to Dr. Henry Ravenel, of St. John's, Berkely, and whilst there, we made such inquiries as enables us to give a concise account of his management. The place on which he now resides, (Pushee) has long been in the possession of his family, and when he became proprietor of it was much exhausted, by long and severe culture. Not having land enough cleared to enable him to alternate his fields, he judiciously determined to endeavour to restore their fertility by the free use of manures. He accordingly set himself seriously to work to effect this, and his efforts have been crowned with considerable and deserved success.

We are aware that a large majority of the southern planters would not consider the attempt to renovate old lands, the most judicious course that could be pursued. They consider it better policy to clear land, cultivate it whilst it can produce any thing, then abandon it and clear more, rather than attempt to restore the fertility of old fields by manuring. They think it, on the whole, more economical, that is, that more can be made by following this plan for a certain number of years, with a given number of operatives, than can be, by that of manuring. Of this we have strong doubts, for the only instances we have known, of this experiment being fairly tested, the results have been decidedly in favour of manuring, but these were conducted systematically and for a number of years. The manuring of fields, however, as a late writer in the Agriculturist observes, is a matter of calculation, and if after we have fairly made it, we ascertain that it is better to clear lands rather than manure, then surely we ought so to do—but we must be careful not to deceive ourselves, by making partial calculations, and those based on false premises, the effect would be felt when the remedy could not be easily applied. The great fertility of newly cleared land is apt to mislead us—we take as a datum, the product of a few of the first years, and against these we array a fearful number of supposed obstacles, which are to be encountered in renovating old lands. Among these are the slow returns at first and the difficulty of obtaining manures in sufficient quantities, for all of the land under culture But we must bear in mind that the old and new land, will in a few years change places, and this will surely and rapidly take place, unless manures be resorted to, to keep up the fertility of the new land. As to the difficulty of obtaining manures, this is more imaginary than real, for most planters have the means amply within their power, if they would but make use of them, of collecting and preparing as much as they need. The only real obstacle in the way is the want of system. It is the neglect of this which occasions so much waste and loss on our plantations, not only in manures, but in many other things. We are too much in the habit of performing all of our operations designed for the improvement of our lands in a helter-skelter kind of manner, and at irregular periods. This is much more strikingly displayed in our manuring systems, (if that can be called a system in which there is almost a total want of arrangement.) Instead of the collecting of materials for manures being considered as one of the most important transactions of a plantation, it is on many totally neglected, and on those on which there is an attempt made, (with some few honorable exceptions) it is held as of secondary consideration, and made to give way to every other business. As long as this course is pursued, it is reasonable to suppose that the planter must fail in his attempts to renovate or even preserve the fertility of his fields. But let him adopt a different course, let him consider the collecting, preparing and applying of manures, as of primary importance, let him set aside a certain number of hands for this special work, and let these hands be employed on no account in other work, and he will find that all his supposed difficulties will vanish, and he will be surprised to discover how much he may accumulate with a very small force. Let not our readers think that we are now dealing in speculation. We know of several instances where this has been most successfully practised, and Dr. Ravenel's plantation is a strong case, to which we will confine ourselves.

The manures used on this place are taken chiefly if not wholly from the stables, cattle, sheep and hog-pens, and the quantity derived from these sources is sufficient to manure the whole of his provision and one-half of his cotton crop, using twelve wagon loads to each acre; but to acquire this, a regular plan is perseveringly followed, and as the result is satisfactory we will here detail it. All of the pens are stationary and substantially built. The cattle-pen occupies about one-third of an acre, and is divided into two parts, the one for milch cows and oxen, the other for dry cattle and yearlings. In this, there are no sheds, but it is contemplated to erect suitable ones during the ensuing summer. The hog-pen is large and there are several separate divisions (all under sheds) for the feeding and fattening of such as are wanted for use. The sheep pen is also large and fitted up with sheds—all of these are at some little distance from each other, and plentifully supplied throughout the year with litter. The cattle, together with the sheep and hogs are nightly penned, and the two last are kept constantly in an enclosure, consisting of 150 acres of swamp and 100 acres of highland—here they find an abundance of food; and so accustomed are they to being brought up every night, that there is not the least difficulty in collecting and penning them. During the winter they, in common with the cattle, have the range of all of the fields, and are only confined to this enclosure during the summer. The number of animals which are nightly penned, are from two to three hundred, and from such a large stock well supplied with litter, it way be supposed that a large quantity of manure must be made under judicious management, and that this is the case may be learned from the fact, that for manuring of the present crop, one thousand one hundred and twelve wagon-loads (equal to four thousand four hundred and forty-eight single horse cart loads) of manure were carted out and spread in the fields. The plan pursued is simply this—an old woman is kept constantly employed in raking trash in the woods, and an infirm fellow, (who is incapable of performing any laborious work) with a mule and cart is employed in bringing it in and littering these pens in which the cattle, hogs and sheep are regularly penned every night—the same plan is pursued with the stable. *These hands are never taken from this work* on any account. It is their portion of plantation work for the year, and although, both together could not in the field perform the work of one able bodied hand, yet in this way, they are of more value than the best of them. Dr. Ravenel estimates their value to him, (employed in this way) at the labour of six hands—that is, were he deprived of the manure made by them, he would be obliged to work six additional hands to make up the deficiency, which would necessarily accrue in his crops. We doubt whether the estimate be not too low. Six hands might enable him for a few years to retain what he would otherwise lose, as he would be able to cultivate so much the more ground. But would his fields be in the same progressive state of improvement, which they now are, or rather would they not be in a few years nearly unfit for cultivation, and he be obliged to resort to the too common practice of clearing new fields and abandoning the old ones. If this would be the result, their value cannot be estimated, by the difference of products of one or two years, but the future condition of these fields must be taken into consideration. This plantation, as may be supposed under such management, has undergone a considerable change for the better ever since this system was adopted. We regret that on referring to our notes, we do not find the improvement in the crops of cotton and potatoes stated, although the products were mentioned several times to us. We find, however, that in the course of eleven years, the product of the corn-fields have been doubled. They at first yielded not more than 10 bushels per acre, and now from 18 to 22, and with every prospect of increasing productiveness.

The results obtained from the other crops have been equally satisfactory, and we need scarcely say that the system is persevered in. We have seen that one of the crops has been doubled, in the last eleven years,* and this has been effected under considerable disadvantage. No rotation of crops is pursued on this place, but the *same crop* is planted every year on the same field. The reason assigned is, that those two great scourges of the planter, *nut* and *joint* grass are scattered in patches in some of the fields, and the utmost care is necessary, to keep them within their present limits. This is much to be regretted, for had a judicious rotation been also adopted, when the manuring system was commenced, there can be little doubt, but that the improvement would have been much greater.

The theory on which a rotation of crops is based, is that each plant requires a peculiar food, which it draws from the soil, leaving (after it has exhausted all which it can appropriate to itself) an abundant supply for other species, consequently, that when a particular crop has been planted so long in one field, that it will no longer yield enough to repay the labour of culture, another, differing from the first in some of its characteristics, will not only grow, but yield as abundantly as if the first had not been cultivated there at all, and in fact, several are considered as excellent preparatory crops for others. Practice has confirmed what theory advanced, and so well is this established, that it is usual, where a rotation is adopted, to manure the fields in succession, applying all of the manure to one particular crop, and this field receives no further assistance, until all of the other crops of the rotation have been cultivated on it, and in due course that which was first commenced with, is to be again planted. The favourable results obtained, fully justify this procedure, and it is even adopted in the garden where manures are usually to be had in abundance. Had it therefore been possible to have adopted a rotation, and all of the manures been applied to particular fields each year, their products, no doubt, would have been much greater, and the improvement much more evident. But even as it is, it is highly satisfactory, and our planters must be indeed wilfully blind if they do not perceive the immense advantages which they may gain from pursuing either this or some other similar plan for the collecting, preparing and applying of manures. That we pay too little attention to this branch of agriculture, we believe all of our planters will admit, but in admitting it, each one has some excuse which he thinks, covers his case, and which his neighbours have not. The general one, however, is that manures are not to be had, and when they are told of the immense quantities which are placed on each acre, cultivated in Europe, they content themselves with the idea that it is their dense population which enables the farmers there to effect this. But those manures which are so readily obtained there, are either of animal or mineral origin, vegetable manures are to be had in much more limited quantities. Now the first is necessarily attendant on population, and as this is more or less dense, so is the facility of obtaining it greater or less; but mineral and vegetable manures are to be had in every newly settled country, especially the latter, and although animal manures contain the greatest quantity of nutriment in the smallest space, yet, vegetable manures are equally as appropriate, if not more so, and we cannot plead that we have not enough of these around us. Our great error is in the want of system, and if we would but proceed more systematically to work, we would soon produce a material improvement on our plantations. The plan we would suggest is that pursued by Dr. Ravenel, and also by James Cuthbert, Esq. and by him recommended in his Address before the Agricultural Society of South-Carolina. These gentlemen employ a certain number of hands exclusively for the collecting and carting into their pens trash of every kind, but more especially pine-straw and leaves, and these hands are *never* taken from this employment, on any account, the consequence of which is a daily augmentation of the manure heap, and the quantity made is very great. Our planters are too much in the practice of attending to this at detached periods, and consider it of so little urgency and importance, that it may be deferred, until there is leisure, or rather until they find nothing else for some one or other of their hands to do, and even those who wish to pay some attention to it, are in the habit of doing so only at long intervals. The quantity of manure which will be collected, is therefore, uncertain, and no calculation can be made, based on the application of certain quantities to any one crop.

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* Of the others, as we have already stated, we have no note, and are unwilling to speak of them from recollection.

We all have it in our power to collect, if not as much as will manure at first, the whole of our fields, yet at least much more than we do now and without incurring any additional expense. It only requires that a few hands be set apart for this special purpose, and that these to be employed in nothing else. If they can collect more trash than is requisite for the pens, let them be employed in carting up mud, (either salt or fresh) and placing this also in the pen where it will prove a valuable auxiliary, and be itself much improved, for both of these are benefited by exposure before they are used. But on no account ought these hands to be idle or taken off from this employment.

Dr. Ravenel's mode of culture does not differ materially from that usually practiced. The cotton is planted about the last of March or the commencement of April, on beds four feet apart. Manure is first applied on the list, this is bedded on, and the cotton planted. The thinning is commenced with the first, continued with the second and finished at the third working, when *each* stalk is left at a distance of from two to three feet, according to the quality of the soil. It receives from five to seven hoeings, but is not gone over in the order in which it is planted. Those fields which are most grassy are first attended to, although not in their turn. We certainly think this a much better plan than that which requires each field to be worked in its regular rotation.

Potatoes are planted early and whole, as they are not so easily pulled out of the ground by crows, &c. and, moreover, yield vines earlier than those which are cut; no difference has been observed in the product of those planted whole and those which were cut. The *slips* (called by some vines) are planted, on ground from which oats have been harvested. These (oats) are manured in the row with cotton seed, which is found to be the very best manure for them. Six quarts of seed to the row of 150 feet, is considered as a sufficient quantity, much more than this causes such a luxuriant growth that they fall—about 30 bushels per acre are produced; the yield of the potato crop we do not recollect.

With respect to the *time* of planting corn, Dr. Ravenel differs materially from the most, if not all of his neighbours. Instead of planting it early as is usually done, it is the last crop that he plants, and seldom, if ever, before the 1st of May. The most critical period in the growth of corn is, as every planter knows, when it is earing—if we have showers then, the probability is, that something of a crop will be made, however bad the season has been prior to that. But on the contrary, let the season be ever so favourable at first, if there be a drought at the time of earing, the hopes of the planter will be blasted. It is, therefore, desirable, that it be planted at such time, that it will pass through this critical period during the rainy season. Now we believe it will be found that June and the early part of July are usually very dry, and that the rainy season commences about the last of July or in August. That his corn may benefit by these rains, that it is planted so late; and his success has been such as induces him to persevere in the plan. He has often made excellent crops, when his neighbours have lost theirs, or obtained but very indifferent ones.* The mode of culture is this: the manure (at the rate of 12 wagon loads to the acre) is spread in the alleys, and a very large *list* made, on which the corn is planted, but in order that the manure may not be disturbed, (which would be the case were hoes used in making the holes,) cotton dibbles are employed; the rows are 4 feet apart and the stalks 3½ feet. The crop receives but two workings, and a good one, has been made with only one hoeing. The product we have already stated—the blades are exposed to the sun but for one day which is found sufficient to cure them. Among the corn, peas are planted in *drills* extending from hill to hill and not in chops as is usual, they are thus better enabled to support themselves, and the product is greater, perhaps, owing, in part to a greater space of ground being occupied by them.†

Another practice pursued by Dr. Ravenel is deserving of the attention of every planter. It is the manufacturing on his plantation, with his own slaves, from the wool and cotton produced on the place, all of the clothing and blanketing necessary for the use of his negroes; and this is done without subtracting any thing from the effective force of the plantation. The spinning is done during rainy days and by pregnant women. These last are also thus employed for a week or two after the usual period allowed for their confinement, instead of being placed at once to field work. After the crops are laid by (in the mooth of August) and during the winter, *one* fellow is employed in weaving, and he accomplishes from 6 to 700 yards. The negro cloth is fabricated of wool and cotton, specimens of which we saw—it is thick and substantial, fully equal to the service required of it.

The blankets are entirely of cotton, wove very thick and are much liked by the negroes. Some cotton blankets which were made and given to them 16 years ago, are still in use among a few of them. The greatest objections made to the use of this kind of blanket by our planters, is, that it is liable to take fire, and they fear accidents from the known carelessness of negroes; but were we to refuse to make use of all articles from which accidents might occur, how miserable would our condition be, and how many of the comforts we now enjoy would we reject. We would neither ride a horse, nor live in a wooden house, because we might be thrown from the one, and the other might take fire, and to be consistent, we must either build mud or brick cabins for our negroes. Let us not, therefore, exclude cotton blankets, when both economy and policy require of us to make every exertion, to support not only ourselves, but our state also. That these fears are not, wholly groundless, we admit, but thus much we have authority for saying, that on a plantation in the neighbourhood of Dr. Ravenel, where cotton blankets have been used for some time, *no accident by fire has occured, and the negroes are remarkably healthy.*

The wool which is required by Dr. Ravenel for the making of his negro clothing is furnished by his sheep, a large number of which are entirely *black*, and he is endeavouring to get rid of all producing white wool. The black wool and cotton produce a neat gray cloth, whilst the other has rather a dirty appearance unless it is dyed, and we see no reason for incurring this expense and trouble if by keeping only black sheep, the same end will be obtained. The sheep are shared twice in the year, viz. about the first of April and the 1st of September, and are supposed to yield about one-third more than when sheared only once. The practice at first was thought to be injudicious, by many of the planters, but experience has led him to believe not only that more wool can be obtained in this way, but that the sheep are equally as healthy, if not more so, than those which are sheared but once.

Thus have we given a concise sketch of the management of this place. Our time did not enable us to make a more minute investigation, or to accept of the many invitations extended to us by our friends of Pineville and its neighbourhood. It is a source of regret that we could not. The planters of this section of our state have long been reputed to be most excellent agriculturists. It would, therefore, have been peculiarly gratifying to us, could we have visited and inspected the operations of their several plantations, and in no place could we have spent a portion of our time, more pleasantly. The planters of Pineville and its neighbourhood, are not only celebrated as such, but are also among the most intelligent and hospitable of our state, and it was with regret that we took our leave, without being able to avail ourselves of our contiguity to gain a more general knowledge of their husbandry.

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* The practice of Col. J. Brain of Cooper river, corresponds with that of Dr. Ravenel, and the like results attend it; thus confirming the correctness of the course pursued. We hope some of our readers will institute experiments on, and test this point fully.

† Some of the planters of North Carolina sow peas broadcast over the whole of their cornfields at the last ploughing, which by this operation is covered. They are permitted to grow at random, and in the fall of the year as many as are wanted are gathered, and the hogs turned in to glean the balance. The stubble is ploughed under for manure.

(From the New England Farmer.)

ON PARSNIPS.

As there is no inconvenience in giving to a subject a little forethought, I beg to say a few words respecting *Parsnips;* notwithstanding the time for preparing the ground for a large crop this year has passed. But a small quantity may be raised even this year, by way of experiment; and some parsnip plants may yet be set out for seed, to be gathered in the fall for a full crop in 1832, should the experiment of the present year prove encouraging.*

Deep ploughing may be expected to be requisite for every plant with a tap root; but the ploughing must be deeper for parsnips than for carrots, to prevent the shooting out of large *side* roots, which would not only render the parsnip inconvenient for harvesting, and for handling afterwards, but diminish the *central roots,* in which its nourishment chiefly lies. This deep ploughing, however, will bury many weeds, put out of the way many insects, and prepare the ground for wheat and other important crops, especially those having deep roots. The plant in question affords a variety to the farmer, in his culture, to meet the accidents of seasons, as well as a variety in their food to some of his farming stock.

The parsnip also, when harvested properly, is not readily affected by frost. It requires no animal or vegetable manure, and may be cultivated, with proper care, for several years on the same spot. We have not as yet, perhaps, had much trial of parsnip crops among the farmers of the U. S. but if we trust to English accounts, they are valuable for horned cattle, swine, and horses, and are likely to merit attention here, where (especially to the eastward) parsnips may be raised to great perfection in garden culture, as the writer of this article cheerfully testifies.

Mr. Arthur Young shall be our principal evidence as to the general merit of a parsnip crop on a farm; and my citation from him will be taken from the *tenth* edition of his *Farmer's Calendar*, printed in London in 1815.—His words are as follows:

"Of all the crops which the farmer can cultivate, the parsnip is the most valuable; but it demands a better soil than any other crop he can put into the ground. If he has not land of an extraordinary quality he had better not venture on the culture. They love a very deep soil, dry, sound, friable, sandy loam; ploughed as deeply as possible, towards the end of autumn, and left for the frost to *pulverize* and *sweeten*. About the 10th of February [he here speaks of England] if the weather be favorable, it will be proper to sow and *harrow in* five pounds of seed per acre, which will come up in about *six weeks*."

Under the head of the month of March, Mr. Young adds the following paragraph. "Early in this month parsnips are to be sown. They are not to be recommended except in the deepest and richest soils. The land should be dry, but very fertile.—The putrid, rich deep sands, worth 40 or £50 an acre; the deep, friable, sandy loams that are as good two feet deep as on the surface, are the soils fittest for this root. On these they come to a great size; and no other crops on such land, can pay better. Where the soil is proper, *the inducement to cultivate them is very great;* for they will fatten bullocks as well as oil-cake, and are excellent in fattening hogs. Of all common roots they are the most saccharine.

"The tillage and management is the same as for carrots, but they demand deeper ploughing. Four or five pounds of seed is the proper quantity, sown broad cast; and the first week of this month the right time.—If the weather is favorable they may be sown the last week in February; and *harrowed* in. Both these roots have been tried in *drilling*, by very skilful drillers; but they have not answered like broad-cast crops.—Nothing prepares better for *wheat*, if due attention be paid to keeping them entirely clean."

We here take leave of Mr. Arthur Young himself to notice a part of the report of a certain Mr. Budd, a considerable farmer, near Guilford, in Sorry, in England, cited in Mr. Young's Calendar. Mr. Budd found the parsnips valuable for his hogs, his dairy cows, and his horses; saying that five of the latter gained him each, half a guinea a week for ten weeks, besides saving him hay.* An ox had a most unusual quantity of fat within him, besides making admirable meat. [See *Arthur Young's Calendar,* as above, p. 92-94, 135.

In Monk's Agricultural Dictionary, vol. xi. p. 272-275, we have an addition to these accounts, but with some variation. The first article is from Mr. J. Hazard, who writes thus:

"To cultivate parsnips so as to make them advantageous to the farmer, it will be right to sow the seeds in autumn, immediately after they are ripe, or come to perfection; by which means the plants will appear early in the following spring, and will get strong before the weeds can grow to injure them. Frosts never affect the seed, nor do the young plants ever suffer from the severity of the seasons. Not only on this ground but for many other reasons the autumn is preferable to the spring sowing, as the weeds at this latter time will keep pace with the parsnips; and often when they are hoed or cleared, great part of the crop is pulled up, cut out, or otherwise destroyed, as (when sown in the spring) they are so small, when they first appear, as not easily to be distinguished from the weeds. If no rains fall at that season some of the seeds will not vegetate, till late in the summer; and the few plants which do appear will scarcely pay the expense of cleaning them. Besides they will never grow to any size, but be sticky, or cankered, and consequently will be destitute of nutrimental juice; while on the contrary those which are sown in autumn will be large.

"The best soil for parsnips is a rich deep loam; next to this is sand; or they will thrive well in a black gritty soil; but will never pay for cultivation in stone, gravel or clay soils, and they always are largest where the earth is *deepest*. Dry light land is pleasing to them; but stiff or hide-bound land is destructive. If the soil is proper they do not require much manure. A very good crop (says the writer) has been obtained by himself for *three successive years,* from the same land without *using any manure,*—but when he laid *sand*, at the rate of about forty cart loads per acre, upon a *very stiff loam,* and ploughed it in, he found it answered very well; from which he concluded that a mixture of soils may be proper for this root.†

It is best to sow the seed in drills at about 18 inches distance from each other, that the land may be more conveniently hand or horse hoed; and they will be more luxuriant if they undergo a sound hoeing, and are carefully earthed, so as not to cover the leaves.

If people would in general be attentive to the soil, the season for sowing, the cleaning and earthing up of the plants, and raising their seed from the largest and best parsnips (which should be selected and transplanted‡ for that purpose,) there is no doubt such a crop would answer better than a crop of carrots. They are equal if not superior for fatting pigs, as they make their flesh whiter; and the pigs eat them with more satisfaction. When they are clean washed, and sliced among bran, *horses* eat them greedily." *Bath papers*, vol. iv. 1788.

Another writer in the same volume of the Bath papers, says "I am of opinion that there is a plant, I mean *parsnip, which has not been yet tried by any of your correspondents.*—But which is in France, and in our adjoining islands [in the British channel] held in high estimation as a food, particularly for *cattle and swine.* In Britany [in France] especially, they mention it as little inferior in value to *wheat,* whilst cows fed with it in winter (say they) give as good milk, and which yields as well flavored butter as milk in May or June; and in as great abundance. It is much commended for *swine, which rear young pigs.* It also proves very useful in fattening pigs."

Here end our citations from the Bath papers.

After the reference just made to *French farming* on the subject of parsnips, something might have been expected to have been found in the *Maison Rustique;* but in its tenth edition (in 1775) nothing of moment appears; except that parsnips are said to be of two kinds, *white and yellow;* and that more apprehension is expressed of frost acting upon the crops, put up for keeping, than Dr. Deane seemed to think necessary in his edition of the *New England Farmer* for 1790.

Though the experience of the writer of this letter only regards the parsnip in *garden culture,* in the northern part of the Union, yet this experience proves that the parsnip may be cultivated with *spring sowing,* like the carrot. It may be added also that the Surry Farmer (Mr. Budd above mentioned) varied his mode of giving his parsnips to his animals, when he found them for the moment glutted with them. And lastly, let it be recollected, that a variety of farms have spots of *deep soil*, which their annual crops never employ *down to its bottom:* and that it is so much gain to a farmer, when any of this deep soil is brought from time to time into *extra use.*

I am, Sir, your constant reader, S. O.
Hallowell, June, 1831.

(From the Genesee Farmer.)

SWAMP MUD.

Were farmers to pay more attention to draining their low lands, they would find it much to their interest. Separate from the advantage of rendering their low lands dry and productive, much manure of the first quality might be taken from the ditches, and when spread upon fallows and other uplands under tillage, would well repay all the expense of ditching. Many seem to entertain the idea, that nothing is worth carting or speading as manure, unless it has been collected in the barn-yard, or is the excrement of animals.

All vegetable matter undergoing decomposition furnishes food for growing plants, and may be applied as manures. In short, any thing, whether vegetable or animal substance, which on being mixed with a soil under cultivation, and which increases the growth of plants cultivated in such soil, is termed manure. Different soils require different substances to be applied, in order to facilitate the growth of plants; thus light sandy soils which are too loose to retain moisture are greatly benefited by the application of clay; and such earths as are comparatively too retentive of moisture, are greatly altered for the better, by mixing with them a portion of sand, so that whatever be the soil which requires ditching, the earth removed may be carted to a different soil, and be applied as a manure. There is on some farms small swamps or depressions, in which vegetable matter collects, and which cannot without considerable expense be drained; these frequently become dry during summer, when large quantities of manure might be taken out of them. Good farmers will look carefully to those things, but some that are new in the possession, may not be aware of the importance of such deposits, and a hint from us may not be considered amiss.

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* This was intended for last week's paper, but received too late for publication.—Editor.

* If parsnips, like carrots, when given alone furnish weight of carcase rather than strength; then should immediate service be required, strength and bottom may easily be gained by a mixture of more heartening food with the root in question.

† It is an established rule that the proper mixture of soils by art, is in the first instance equivalent to manure; or is a *permanent* manure. Manure which is absorbed may be added.

‡ The only reason for taking up the plant, when it is destined for producing seed, is to have the power of selecting the best; but when it is known that the plants are all good, to transplant them is doing much mischief and losing time.

(From the Western Tiller.)

AGRICULTURAL EXHIBITION AND FAIR,

Held at Carthage, June 15th and 16th, 1831.

SECRETARY'S REPORT.

The attendance and evident interest of about four thousand of our fellow-citizens in the operations of the exhibition, demonstrates that the Society have succeeded in convincing the community of the utility of the association, and that a sufficient spirit of inquiry has been excited, to encourage its members to persevere in their labours of seeking the means of improving the condition of our farmers, by diffusing a knowledge of the theory of their occupation, and at the same time making them acquainted with and placeing in their hands, labor-saving implements of husbandry. Nor is it less evident, that the operations of the society have tended to benefit a sister interest; in consequence of the stimulus given to improvement in the mechanic arts, by calling into action the ingenuity of such of our artisans as have felt a laudable desire to be distinguished as *good workmen*, articles have been produced and exhibited, that merit and have received public approbation.

Another encouraging circumstance at this exhibition, and one that added greatly to the gratifications of the occasion, was the attendance of a considerable number of very respectable ladies.

The efficient manner in which three of the secretaries appointed by the society to superintend the branches into which the operations of the exhibition were divided, have discharged the duties assigned them, renders it unnecessary for the secretary of the society to enter into the detail that has hitherto been required of him. It is on this occasion only necessary to refer to the reports of James C. Ludlow, Esq. on stock; William Burnet, Esq. on manufactured articles; Capt. Barnum on agricultural implements and products; and also to the report of Capt. Barnum, who was appointed secretary for horticulture, in place of B. Drake, Esq. absent;—for a specification of the entries for premiums, and articles entered without reference to the premiums. Some other articles, however, came on the ground not only *too late* for entry, but even at the eleventh hour, when the secretaries were engaged with the judges in the formation of their reports, and therefore they did not receive that attention, and cannot now receive that notice, which from a cursory view, they appeared to deserve; and which would have been, had they been offered for entry in proper season. Among the most important of those recollected, are the Threshing and Corn Shelling Machine of Messrs. Forsha and Kibby.

The fine brooms of James Wells, of Cambell county, Ky. called by him "Elmwood brooms."

The accelerated paddle churn of Mr. Mewhinney, of Butler county, a description of which has been received in a letter from the proprietor, and will be published.

A specimen of excellent stone ware, made by Mr. U. Kendall, of Cincinnati.

The very superior specimen of manufactured tobacco, of Mr. Leathers, of Cambell county, Ky.

A pair of chrystaline chandeliers, brought by a gentleman whose name is not recollected.

Some neat made neck stocks of various colors, made by W. L. Chappell, of Cincinnati, that deserve the particular attention of the young gentlemen of fashion.

It is to be hoped, that the Society will provide some remedy for this evil previous to the next exhibition, and enjoin a rigid adherence to the rule requiring entries to be made previous to a certain hour. There is another evil connected with the subject of tardiness, which occasions great inconvenience at an exhibition, and requires to be remedied—that is the neglect of members who are appointed by the Society as judges, to attend to the duties of their appointment, or even to appear on the ground, and by this negligence, subjecting the officers to the unpleasant duty of hastily selecting others to supply their places, and in some cases had led to the appointment of persons to perform duties that ought to be performed by members only, who have not felt sufficient interest to become members, and of course, cannot be supposed to have the objects and credit of the Society at heart.

The maker of the "Elmwood brooms," conceives it due to him, that the secretary should state, that the reason why he was not out in time to make his entry, was a remark in the Western Tiller, that manufactured articles would be exhibited on the second day. It is pleasant to remove from an industrious man the imputation that would naturally arise from being too late, and remedy, in some measure, the injury he has sustained by not having an opportunity of competing for the premium, with such a prime article as his brooms certainly are. He had however, the consolation to know, that their value was duly appreciated at the auction where they sold for fifty cents a piece, being one hundred per cent. above the ordinary value of corn brooms.

It will be observed, by the reports of the judges and the secretary for agricultural products, that there were but few agricultural products present, as might have been expected. At this season of the year, even if a sufficient variety could be matured to make an interesting exhibition, the operations of the period are too important to the farmer, to permit his withdrawing his attention from his farm, without seriously endangering his interest; we cannot therefore expect to see many agricultural products in June. The same remark will not, however, apply to horticulture. In addition to the various edible articles then in perfection, many, very many, beautiful articles are in bloom. And if the gentlemen who possess ornamental gardens in this county chose, they might not only make a fine exhibition of vegetable beauty, and of their own taste and industry, but promote the embellishment and refinement of our country, by creating a taste in our farmers for this first and most delightful occupation of man, the cultivation of a garden. Hitherto the Society has been entirely indebted to Major Gano for every flower that has ornamented their exhibitions.

Although the reports of the Secretaries and judges give a general history of the exhibition, and articles exhibited, there were some things not directly offered to their consideration that deserve particular notice; among these, was the splendid binding of the copies of the Western Agriculturist, offered as premiums by the Society, bound by Messrs. Buckley and De Forest, bookbinders, of Cincinnati.

Some fans tastefully designed and painted by Miss Margaret Dickey.

The infant socks of Mrs. Dr. Price are also very pretty articles.

The pen and pocket knives of Mr. Muscroft, cutler, 5th street, Cincinnati, do him great credit, not only as to finish and temper, but in their appearance of durability.

The Society is not only again indebted to Major Gano for the finest display of horticulture, but for the exhibition of some articles of the greatest importance to the future welfare of our country, a *silk reel, a silk loom and swift*, IN ACTUAL OPERATION.

Mr. William W. Greene, of Mill creek township, exhibited a remarkable fine Durham cow, that appears to have escaped the attention of the judges of stock, in making out their report.

A plough made by Messrs. Wilmington & Labaw, of Reading, in this county.

A suit of domestic clothes, manufactured and made up in the family of William Carey, Esq. president of the Society.

A suit, manufactured and made up in the family of Mr. Duncan Cameron.

And some others that have been reported on, that deserve a recapitulatory notice, among these are the hats of Mr. Parmele, and those of Messrs. J. I. Haskins & Co. hat manufacturers, Cincinnati, of which the judges speak in the highest commendation, and state them equal to the best they have ever seen. So decided an expression of approbation from experienced judges, who are practically acquainted with hat making, must be gratifying to the gentlemen that manufactured those exhibited, and will no doubt stimulate them to sustain the high character thus attained.

The keg of gun-powder, of David Wade, Esq. after a very critical examination and a variety of experiments then made and since repeated, and a careful comparison with the powder of Mr. Dupont, the most celebrated powder manufacturer in the United States, the judges are of opinion that the powder of Mr. Wade, is equal in all its properties to that of Mr. Dupont. A higher recommendation could not be given.

The polished steel axes of Mr. Johnson, of Columbia, and the axes of Mr. Cassat, of Cincinnati, do these gentlemen great credit.

The summer-beer from the Washington brewery, exhibited by Mr. Charles Schultz, received not only the approbation of the judges, but of all who had the pleasure of tasting it. This new method of brewing beer in the summer, will furnish our farmers with a valuable substitute for the whiskey hitherto but too much used in their harvest fields.

In consequence of the practical demonstration of the utility of the revolving hay and grain rakes in the barley field, all that were on the ground were immediately sold, and it is to be regretted that the proprietor had not a greater supply.

On the 16th, a very instructive address was delivered by Gen. Harrison, after which the Society and the guests, among whom was their distinguished fellow citizen, Judge McLean, partook of a dinner prepared for the occasion. At the dinner, the Society had the pleasure of again tasting the excellent ale and porter of the late firm of Perry & Reilly, which sustains its well established reputation. They also partook of the fine potatoes of Mr. Foster and Mr. Bush, the gooseberries of Maj. Gano, and the beautiful carnation cherries of Maj. Ruffner.

The closet in which the papers of the secretaries were deposited, not having a fastening, some of the memoranda were displaced and others lost, a circumstance which has not only increased the difficulty of making out the reports, but will no doubt prevent a notice of many articles worthy of attention, that were not regularly entered. This and other inconveniences sensibly felt during the exhibition, evince the necessity of the Society's owning a situation, on which suitable and permanent arrangements can be made; and it is to be hoped, that the respectable committee appointed to take means to procure an experimental farm, will persevere in their exertions, until that desirable object is accomplished.

There is one circumstance in the history of this Society that should be known to the farmers of this county—which it may not be improper to mention here, and that is, while too many of them have shewn a perfect apathy as to their own improvement, the citizens of Cincinnati have been generously contributing time, influence, and money, to obtain and diffuse among them information which it is their duty and interest voluntarily to seek for themselves—and that it is to the lawyers, the doctors, the merchants, and the mechanics of the city, that the Society is principally indebted for its existence and utility.

D. C. Wallace, *Secretary.*

TO FARMERS.

A writer in the Norwich (Conn.) Courier says—"If grass when mown, is carefully turned every day it will injure very little. The great cause of injury is its laying on the ground through a long spell of rainy weather. If it lay more than one day, it becomes mouldy, and turns black. If carefully turned daily, 'rain or shine,' it will not lose color. This is the result of many year's experience."

HESSIAN FLY.

This insect has made its appearance this season, in this section, but to what extent they have damaged the wheat we have not yet learned. As the habits of this insect are well known, farmers should guard against their ravages. They may be found, at the time the wheat is in blossom, between the stalks and lower leaves, in the chrysalis state, somewhat resembling a flax-seed. During the time the kernel is in the milk, they hatch out and become moths, and deposit their eggs upon the kernel, which is too small to be visible to the naked eye. When such wheat is sown, should the autumn be warm, they hatch, and the larvæ ascends the young stalks, and locate themselves among the leaves, as far down as possible. In this situation they may be found before and after they are transformed to the chrysalis state, having fed upon the juices of the young stalk, which they materially injure As the insect itself is not a great traveller, it is easy to destroy the egg before sowing the wheat. For this purpose, place the wheat, intended to be sown, in a basket over a tub, and pour over it strong caustic ley, scalding hot, after which the wheat may be sown, and the increased vigour with which wheat so managed will shoot, will compensate for the trouble, separate from the destruction of the egg of the Hessian fly. We recommend it to farmers to examine their fields, and if any signs of the fly are to be found, to scald their wheat the coming season, before sowing, which will prevent them in the next crop.—*Genesee Farmer.*

SOLID STEM WHEAT.

We had an opportunity a few days since, of seeing a lot of wheat upon the farm of Dr. *Wilson Waters*, of Rhode river, from which, we presume, something upwards of a bushel will be reaped—that if we mistake not, will be a valuable acquisition: it is the third product of a few grains of seed brought home by our fellow citizen Lieut. Mayo, of the United States Navy, and obtained by him upon the *Plains of Troy*, in Asia Minor, which he spent some time in visiting a few years ago, when the ship on board of which he then served, was in the Archipelago. The grains of this wheat are somewhat larger than those of wheat common to this country, though perhaps not quite as large as the wheat from the mountains of Chili. The stalk is peculiar for being nearly solid, instead of hollow, and more tapering then other wheat; the first joints being larger, and forming a more substantial base. The head has a thick stiff beard, not less than six inches in length. It averages about forty grains to each head, which we ascertained to weigh one-third more than the same number of grains of the blue stem wheat growing along side of it, and which also averaged forty grains to the head. Forty grains of the former weighed thirty one grains—the same number of the latter weighed but nineteen grains.—This being the third year that this wheat has vegetated in our climate and upon our soil, although but in specimen, we may fairly assure that it has been tested and found to answer well. It is said to be valuable more especially from the protection which the solidity of its stalk affords from the depredations of the fly, so destructive to other descriptions of wheat. It will also be much less liable to fall, we presume, from the same reason.—*Annapolis Rep.*

Harvesting Oats.—It is much the best way to mow (not reap) oats when beginning to turn yellow, whether they are wanted for fodder, or for the oats with the fodder. If a farmer wants to make the most of his oats, if they are ever so stout let him mow them when beginning to turn yellow, dry them well, thrash them as much as he pleases, and his cattle will eat the straw in preference to the best meadow hay; and besides the grain will be much brighter and heavier than if they stand in the field till quite ripe, and the straw is spoiled.—*Detroit Courier.*

HORTICULTURE.

THE STRAWBERRY.

Natural Order—*Rosaceae*, resembling the rose in flowers and medicinal properties, being refrigerant, tonic and astringent. Class—*Icosandria*, having twenty or more stamens inserted on the calyx. Order—*Polyginia*, having many pistils. Genus—*Fragaria*, comprising strawberries. Calyx inferior, 10-cleft; 5 alternate divisions smaller: corol 5-petalled; receptacle ovate, berry-like: acines naked, immersed in the receptacle, caducous.

No vegetable production of the colder latitudes, or which can be ripened in those latitudes without the assistance of artificial heat, is at all comparable with the strawberry in point of flavor; and, if the soil and situation be properly adapted to it, the more cold the climate, indeed, the more bleak and elevated, the more delicious is the fruit.

To contemplate its relations to the other parts of nature—to the sun which expands its blossoms—to the winds which sow its seeds over and over—to the brooks whose banks it forms and embellishes;—to contemplate how it is preserved in winter, during a cold capable of cleaving stones asunder, and how it appears verdant in the spring without any pains employed to preserve it from the frost—how, feeble, and trailing along the ground, it should be able to find its way from the deepest valleys to the summit of the Alps—to traverse the globe from north to south, from mountain to mountain, forming on its passage a thousand pieces of chequered work, of its fair flowers and rose colored fruit, with the plants of every other climate—how it has been able to scatter itself from the mountains of Cashmere to Archangel, and from Norway to Kamtschatka—how, in a word, we find it in equal abundance in the continent of America, from the bleak fields of Labrador, even to the Terra del Fuego, though an infinite number of animals are making incessant and universal war upon it, yet no gardener is at the trouble to sow it again—fills the mind of the real lover of nature with wonder and admiration.

The derivation of the name *strawberry*, is rather obscure; it is, however, of very ancient date. The Latins named it *Fragaria*, from its fragrance; some others say that it is derived from *fragans*, to break, from its supposed efficacy of dissolving or breaking the stone in the bladder. It was also called *Morum terrestre*, from the great resemblance of the fruit to that of the mulberry. Our English name, strawberry, we find applied to it by the oldest English writers, with scarcely any other synonyme; and it is conjectured by the late Sir Joseph Banks, to have originated from the practice of laying or placing straw under the plants to protect the fruit from being spoiled by mud in times of rain, or when watered artificially. The ingenious author of *Pomarium Britannicum* traces the origin of the name to a still more remote date. "We are of opinion," says he, "that it had this appellation prior to its being cultivated in our gardens, and that the name of strawberry originated from the old practice of threading these berries on straws of grass, in which shape they were brought from the woods. It is still practised by children in many country places where the wild strawberry abounds, who offer the fruit at so many straws of berries for a penny."

The ancients appear to have disregarded the strawberry as a fruit-bearing plant. Virgil, Ovid and Pliny speak of it so slightly, and although the latter particularly mentions the bramble-berry, still he nowhere notices the strawberry as an article of diet, luxury or medicine. It was in some repute in England in the time of Tusser, who in his quaint way makes the farmer say:—

> "Wife, into the garden, and set me a plot
> With strawberry roots, the best to be got."

And the immortal bard, Shakspeare, takes notice of them in Henry V.; and in one of his dramatic poems says:—

> "My Lord of Ely, when I was last in Holborn
> I saw good strawberries in your garden there."

Evidently alluding to the garden of the Bishop of Ely, who had a palace and garden near about where Ely-place, Holburn, now stands.

The strawberry is one of our earliest fruits, and as the harbinger of the *fructus horæi*, its appearance is as welcome as its flavor is agreeable.

The gathering of strawberries in the fields is among the rural enjoyments of children, which are, in after life, recollected with pleasure, not unfrequently mingled with melancholy reflections, upon the contrast of that happy season with the sorrows with which maturer years are shaded.

> "The strawberry blooms upon its lowly bed,
> Plant of my native soil! The lime may fling
> More potent fragrance on the zephyr's wing;
> The miky coaca richer juices shed,
> And white guava lovelier blossoms spread;
> But not, like thee, to fond remembrance bring
> The vanished hours of life's enchanting spring,
> Short calendar of joys forever fled!
> Thou bidst the scenes of childhood rise to view,
> The wild wood path which fancy loves to trace,
> Where, veiled in leaves, thy fruit of rosy hue
> Lurked on its pliant stem with modest grace.
> But, ah! when thought would later years renew,
> Alas! successive sorrows crowd the space!"

As a dietetic fruit, the strawberry affords but little nourishment; the moderate or even plentiful use of it is salubrious, and recommended to those of inflammatory or bilious habits. Boerhaave considers the continued use of this fruit as one of the principal remedies in cases of obstruction and viscidity, and in putrid disorders. Hoffman furnishes instances of some obstinate diseases being cured by strawberries and other mild, sweet subacid fruits. Strawberries should be taken sparingly by those of a cold, inactive disposition, where the vessels are lax, the circulation languid, or digestion weak.

This fruit is generally used as a dessert in its natural state, although often with cream and sugar: but it is more esteemed when Burgundy or claret wine is substituted for the cream. Strawberry jam is much admired; and for ice creams the flavor is generally preferred to that of raspberries.

Loudon, in the *Hortus Britannicus*, enumerates fourteen species of strawberries growing in England, all of which will flourish equally as well in this country. The following table exhibits their names and descriptions:—

SPECIFIC NAMES.		*Time of Flowering.*	*Color of Petals.*	*Native Place.*
Edible	*Vesca*	April, May	White	Brit. woods
Large-calyxed	*Calycina*	April, June	do.	France
One-leafed	*Monophylla*	May, June	do.	do.
Hill Green Pine	*Collina*	April, Nov.	do.	Germany
Majaufe de Champ.	*Majaufea*	April, May	do.	France
Bresling	*Breslingia*	April, June	do.	do.
Plane-like	*Platanoides*	do.	do.	N. America
Taller	*Elatior*	April, May	Red	Brit. woods
Canada	*Canadensis*	do.	White	N. America
Scarlet Virginia	*Virginiana*	do.	do.	do.
Pine Great-Flowered	*Grandiflora*	do.	do.	Surinam
Chili	*Chilensis*	May, June	do.	S. America
Buenos Ayres	*Bonariensis*	April, June	Apetal.	Buen. Ayres
Yellow Indian	*Indica*	May, Oct.	Yellow	India

All the above named species are of perennial duration, and may be propagated by roots and seeds. They all flourish best on a rich loam except the Edible, which requires a sandy loam, and the Yellow Indian, a sandy peat.

We now annex a list of thirty varieties cultivated in the Linnæan Botanic Garden, New York, from the pen of the proprietor, Mr. William Prince.

1. *Scarlet Virginian*—a native of our woods; fruit high flavored, and ripens very early; it is the parent of all the strawberries of that class denominated *scarlets*, of which forty-three varieties are known.

2. *English red wood*, sometimes erroneously called *red hautbois*, although it is smaller in size and inferior in flavor; it is, however, one of our most productive varieties, and not apt to have a superabundance of male flowers; and as the fruit does not at all come

to maturity at one time, but continues to ripen gradually for a considerable period, it is a very useful family strawberry.

3. *English white wood,* sometimes erroneously called *white hautbois;* this has precisely the same qualities as No. 2, except in point of color.

4. *English red hautbois*—musk flavored, very fine, and nearly twice the size of No. 2. This variety is apt to be overrun with male plants, in which case new beds ought to be made when in fruit, in making which they should be planted in the proportion of ten fruit-bearing, or female plants, to one barren, or male one; and beds thus formed will produce so abundantly as amply to compensate for the labor bestowed. If preferred, the plants can be carefully marked when in fruit, and be transplanted afterwards.

5. *Hudson's Bay*—a hardy northern variety, with fine flavored scarlet fruit.

6. *Red Chili*—a conical shaped fruit, with a neck between it and the hull, from which it is consequently detached with ease. It is exceedingly productive, and is raised in great quantities for the market of New York; it is inferior, however, in flavor to the roseberry, hautbois, Lima and many others.

7. *Blush or greenish Chili*—this is called in England *white Chili,* and was imported by me from there under that name; as that name is, however, very inappropriate, I have changed it. It produces fruit more flat shaped than any other I have seen, which is always of a greenish and immature appearance on one side, even when perfectly ripe, and of a light red on the other. It possesses a high musky flavor, the taste being somewhat peculiar, and by some at first considered disagreeable. It ripens late, produces well, and quickly covers a large space of ground with its numerous runners.

8. *Bourbon blush*—a pale red fruit, less productive than many others, but of fine flavor.

9. *Pine apple or Carolina*—this is another native of our country, and is the parent of nineteen known varieties, among which are Keen's imperial, Keen's large seedling, and many others of the largest size. It is distinguished by its large and vigorous foliage, and fine flavored fruit, but is subject, like No. 4, to be overrun with male plants; but by pursuing the same course, this may be successfully surmounted.

10. *Carolina,* a seedling of No. 6—of good size, but less productive.

11. *Red Alpine, monthly or ever bearing.* It is no uncommon thing to gather fruit of this kind, when the autumn is mild, in the open air, at Christmas. In size and flavor, it is similar to No. 2; produces fruit throughout the season.

12. *White Alpine*—possessing the same properties as No. 11, except as respects color. It is considered best to make new beds of the Alpine varieties every year.

13. *Keen's large*—much celebrated, foliage and runners vigorous, fruit large size and fine.

14. *Keen's imperial*—one of the largest and most noted English varieties, fruit fine flavored, and well worthy of cultivation.

15. *Roseberry,* already described; none superior as a market strawberry.

16. *Black*—a black red fruit of good flavor.

17. *Bath scarlet*—a fine variety; fruit of good size and well flavored.

18. *New hautbois,* also called *black hautbois;* fruit of the largest size of this class, fine musk flavor; when full ripe, of a very dark or blackish red. It is exceedingly productive, and I consider it one of the most valuable kinds.

19. *Downton*—highly esteemed; fruit large, and of good flavor, the foliage very large and vigorous; it produces well.

20. *Knight's* No. 11, called also the *narrow-leaved scarlet*—this is one of the fine varieties of No. 1; fruit large and of fine flavor.

21. *Bostock*—a variety of the pine class. It has been known by no less than sixteen names in England, which is of itself a strong proof of the estimation in which it has been held.

22. *Montreuil,* } favorite French varieties.
23. *Raspberry flavored,* }

24. *Bush Alpine, or monthly*—this is exactly similar to No. 11, with the exception of its having no runners—a circumstance to which some amateurs are particularly partial.

25. *French hautbois*—this much resembles No. 18, except that the fruit seems not quite as large; but it is one of the greatest bearers I have ever seen.

26. *Large Lima*—this is one of the very largest and finest flavored kinds I have ever seen; the fruit is of a long conical form, and is very high flavored. I consider this one of the very best for a family garden, and perhaps it may prove equally so to cultivate as a market strawberry.

27. *Early Hudson*—fruit round, of a pale red color, ripens about ten days earlier than the red Chili, and forms, with that, the principal bulk of this fruit sold in the New York market.

28. *Wilmot's superb*—the largest strawberry known.

29. *Bishop's orange*—next in size to No. 28.

30. *Grove end scarlet*—good bearers and fine flavor.—*Naturalist.*

PARASITIC PLANT.

There is found growing upon, and firmly united to the roots of the black oak, in this vicinity, a plant, which we are not aware of having seen particularly described by any American botanist. This plant attains the height of about six inches, and the thickness of from half to three quarters of an inch, without leaves, the stalk thickly set with seed vessels, which are two valved, and many seeded, much resembling in the growth the beech drops, (Muootropa lanuginosa) but larger, and without branches, the colour a pearly white, inclining to yellow. It corresponds in many of its characteristics, with the Orobanche of England, but is different in many respects, but we are disposed to consider it one of the same family of plants. It is one of the most interesting of all the parasitic plants. When examined it will be found to have united to the root by a granular process, causing an enlargement not unlike the place where a cion has united to the stock, and may fairly be considered a piece of natural grafting.

The root of the oak will be found on examination to be sound and healthy, even to the very point of union. This parasitic plant does not appear to be furnished with any roots of its own, and evidently receives its nourishment from the root of the oak, which ending with the plant gives it a very singular appearance. This would seem an exception to the general rule "that plants do not take upon each other by grafting, unless they belong to the same class and order." Should this come under the observation of any Professor of Botany, who is acquainted with this plant, we should be happy to receive and publish his observations upon it. [*Genesee Farmer.*

Propagating Fruit Trees by Grafting.

The best luting wherewithal to cover the newly grafted scions, is composed of equal quantities of train oil and rosin, prepared in the following manner: First—melt the rosin in an earthen vessel; then pour in the oil, and mix them well. To be applied when cold, with a painter's brush. This composition is used in the north-west part of France, (Britagne,) with general success. It has this advantage—that it never cracks, nor admits rain or wind to the graft; which is the usual cause of their failing. It is more expeditiously put on than the common clay covering, and looks much neater; but what renders it more useful, it is said that the grafts covered with the composition, seldom fail. Scions laid under the earth, or steeped in water, for a few days, grow better than those taken fresh from the parent tree.

RURAL ECONOMY.

(From the Genesee Farmer.)

SALTPETRE ON BEEF.

One of our readers has requested us to give information in our paper, how beef can be restored which has imbibed too much saltpetre. In order to comply with his request, it will be proper to assign a reason why saltpetre is used at all, and then to counteract its effects when too much of it has been used.

It is generally supposed that saltpetre helps to preserve meat. This supposition is not correct; but, on the contrary, it has a tendency to spoil it. Salts are composed of an acid combined with an alkaline base. Common salt is muriatic acid, combined with soda. Salpetre, or nitrate of potash, is nitric acid, or aquafortis, and potash. To form a salt, the alkali and acid combine in certain proportions. These proportions vary in different salts; in some the alkali prevail, in others, the acid. The crystalization does not take place when the two opposites exactly neutralize each other; and although they are commonly called neutral salts, they are not strictly and chemically so—for on applying tests to them, one will show that the acid, and another that the alkali prevails, or is in excess. It is found that those salts only in which the alkali prevails, will preserve meats. Common salt, or muriate of soda, is of this description; but if too much of this salt is used for salting beef or other meats which are mostly what are called lean, the meat will absorb so much of the salt as to become hard and unpleasant for use. Now the saltpetre is used to counteract this effect, for in this salt the acid is in excess; and the same effect would be produced by adding the same quantity of nitric acid or aquafortis to the brine of the meat, that there is excess contained in the quantity of saltpetre used. But this would be a plain case, and every body would say that that would sour and spoil the meat; but by adding saltpetre, the thing is so mystified that they cannot comprehend it—and the love of the marvellous, or what they cannot comprehend, is sufficient inducement with most people to warrant its use. This very relish for what they cannot comprehend, is what keeps half the quacks in our country in bread, and which gives some of them splendid fortunes into the bargain. For instance, who would purchase a bottle of Opodeldoc at the price at which it is sold, if they knew it was only bar soap dissolved in whiskey, and scented with a little ammonia or hartshorn!—and yet such is the fact: or a bottle of *Medicamentum* at the price of one dollar, if they knew it to be similar to a compound tincture of rhubarb diluted with spirits?—or a bottle of *Panacea* at three dollars, if they knew it was only a tincture of sarsaparilla and corrosive sublimate, and that the materials might be bought for three cents. It is the love of the marvellous that makes us use saltpetre for beef, because it will do something to the beef which we cannot comprehend; for no one who tastes it will pretend that it is pleasant to the taste. We do not pretend to know why it was ever introduced for this purpose, but it has gained such reputation, that were you to give a receipt for curing hams without it, it would scarcely be read.

But to the point:—If your beef or pork hams, or any other meats, have begun to sour by the use of too much saltpetre or any other acid, correct it by adding to the brine an alkali in sufficient quantity to neutralize the acid. Pearlash or soda, either will answer the purpose—and the quantity necessary may be known by incorporating it with the brine in small quantities, and testing it by dropping into it an infusion of red cabbage juice; if the juice changes to a bright red, the acid still prevails—but if it changes to green, then the alkali is in excess. It would be well if housekeepers would remember to test the brine from their meat barrels often during warm weather—and as long as the alkali is in excess, there is no danger of meat spoiling; but if the test changes quick to red, the brine should be drawn off and scalded, and a little potash or soda added—sufficient to change the test to a green—when it should be returned to the barrels. The same principle is applicable to pork or beef that has been fed on still slops. In the common process of distillation, the beer or mash runs more or less into the acetous fermentation, and the slops of course contain a quantity of vinegar. Cattle or hogs which are fattened on such food, have a quantity of the vinegar diffused through their whole system. When such meats are packed, the quantity of acid contained in them is sufficient to more than neutralize the excess of soda contained in the common salt, and the whole remains sour, ready for the commencement of the putrid fermentation, which does not take place where the fixed alkalies are in excess. For the want of this knowledge thousands of barrels of pork are lost annually in the United States, and the blame is often attached to the manufacturers of salt, or to the superintendents of salt-making establishments, who are as innocent as were formerly those persons who were executed in New England for witchcraft.

If to beef, hams, or fish, people would add sugar instead of saltpetre, they would find the flavor much improved, and the safety of keeping increased.

CHEESE MAKING.

One of the greatest defects with American Cheese at present, is the want of uniformity in quality, which is owing to the want of system in manufacturing. There is no good reason why we cannot make as good cheese in America, as they do in England; in short, we frequently find those that will compare with the best double Gloucester or Cheshire cheese, but there is a want of uniformity in the quality of most of our common dairies.

This is owing, first, to the quality and quantity of rennet not always being the same, and should be avoided by having all the rennet for the season prepared at one time, after which the quantity could be regulated by measuring the milk and rennet.—The quality of the cheese will be varied by varying the temperature of the milk at the time the rennet is mixed.

Respecting the precise degree of temperature of the milk at the time of adding the rennet, there are different opinions amongst our best dairy-men—some preferring 85° of Farenheit—other varying up to 95°;—but whatever point is preferred, it should be uniform in order to produce cheese of uniform quality.

There is also some difference in regard to the time of coagulation, some prefer using such a quantity of rennet as will coagulate the milk in one hour and an half, others prefer two hours. If there is too much rennet used, the cheese is apt to be of a spongy texture and of an unpleasant flavor, liable to heave and become unsightly in shape.—The quantity of salt used is also of importance; if too much is added, the cheese will become hard and the outside will have a warty appearance; this should be regulated by measure. Another important part of the process of cheese making, is the scalding of the curd; this should always be regulated by the thermometer.

As most of the dairies in this neighborhood are of that size, that the cheese are made by adding the evening and morning's milk together, it is a question of some moment, whether it is most advantageous to skim the evening's milk, or add it to that the morning, with the cream. Unless the cream which has separated from the evening's milk is warmed and thoroughly incorporated, it is undoubtedly more advantageous to take it off, as otherwise it would be apt to pass off with the whey. The single Gloucester is made of one half skimmed milk, and surely it is a very fine kind, superior to much of the cheese made in America from new milk.

Amongst the foreign cheese which stands in the highest repute in this country, are the Cheshire, Gloucester and Stilton cheese of England, and the Schabzieger cheese of Switzerland.

The Cheshire cheese is made from milk with all its cream, that of the preceding evening being warmed.

Gloucester—of this there is two kinds, double and single. The first is made from milk with all its cream, the latter with half skimmed milk.

Stilton cheese. Loudon gives the following description of this cheese, which he says,

"From its peculiar richness and flavor has been called the parmesan of England, is made in the following manner: the night's cream is put to the morning's milk with the rennet; when the curd is come it is not broken as is usual with other cheese, but is taken out whole and put into a sieve to drain gradually; while draining it is gently pressed till it becomes firm and dry when it is placed in a vat, a box made exactly to fit it, as it is so extremely rich, that without this precaution, it is apt to bulge out and break asunder. It is afterwards kept on dry boards and turned daily, with cloth binders round it, which are tightened as occasion requires. After being taken out of the vat, the cheese is closely bound with cloth till it acquires sufficient firmness to support itself; when these cloths are removed, each cheese is brushed once a day, for two or three months, and if the weather is moist, twice every day; the tops and bottoms treated in a similar manner daily, before the cloths are taken off. Stilton cheese derives its name from the town where it is almost exclusively sold; it is made principally in Leicestershire, thu' there are also many who manufacture it in the counties of Huntingdon, Rutland and Northampton. Sometimes these cheeses are made in a net resembling a cabbage net, which gives them the form of an acorn;—but these are neither so good nor so richly flavored as those made in vats, having a thicker coat, and being deficient in that mellowness which causes them to be in such general request. Stilton cheese is not reckoned to be sufficiently mellow for cutting, until it is two years old, and is not saleable unless it is decayed, blue and moist."

Schabzieger cheese is that species of Swiss cheese made by the mountaineers of the Canton of Glaris, and readily distinguished by that peculiar marbled appearance, and aromatic flavor, communicated by the pressed flowers or bruised seeds of the Melilotus officinalis. The practice of mixing the flowers or seeds of plants with cheese, was common among the Romans; thyme was generally used by them. That a similar method was pursued in the middle ages is apparent from an anecdote told of Charlemagne:—

"When travelling without attendants he arrived at a bishop's palace; it was a fast day and the bishop having no fish, was obliged to set cheese before the monarch. Observing some small specks (parsley seed) in it, and mistaking them for rotten parts, he took the trouble of picking them out with his knife. The bishop told him he was throwing away the best parts of the cheese; on this the monarch eat it as it was, and liked it so much, that he ordered the bishop to send him every year, two cases of such cheese to Aix-la-Chapelle; and in order that the cheese merchant might not send cheeses without seeds, he directed the bishop to cut each in two, and afterwards to fasten the parts by means of wooden skewers."

[*Foreign Review.*

LARGE OX.

Wilkesbarre, Penn. July 13.

The Bradford Ox.—This beautiful animal passed through our town on Saturday last, on his way homeward, having been to New York, by way of Montrose and Milford, and returning by way of Easton and Wilkesbarre. He was five years old about the middle of last month; measures nine feet round, and fourteen feet in length, including the length of his tail; is eighteen hands high; weighs two thousand eight hundred and seven pounds. He is handsomely built, without any such deformity as one might expect in a creature of his size. This noble animal was raised in Wysox, Bradford county, by Dr. Seth T. Barstow, an enterprising farmer. It is thought by many, that his weight may be increased to four thousand pounds or more.

This fine ox is of the common stock, and the enterprise of his owner presents an example to farmers, the imitation of which might improve our stock of cattle, and cause our market to smile on seeing a good quarter of beef weighing some eight or nine hundred. E.

THE FARMER.

Baltimore, Friday, July 22, 1831.

Cactus Grandiflora—New Botanic Garden.—On Sunday evening last many gentlemen and ladies of Baltimore were politely invited by the Professors of St. Mary's college to view the cactus grandiflora then in bloom at that institution. There were three fine flowers open, the calix of which measured from 8 to 10 inches, and the corolla about 5 inches diameter. We ought before this to have noticed the fact, that the gentlemen connected with St. Mary's college have adopted measures for establishing a regular botanic garden at that institution. They have made considerable progress, and will soon possess a valuable collection. One object of the establishment of the botanic garden is to enable them to add to the institution a professorship of Botany. This will be an important addition to our horticultural facilities, and when we shall have established a horticultural society, of which we do not despair, we shall be second to no city in the Union in this most delightful science

Management of Farms.—We are glad to see in the Southern Agriculturist the commencement of the publication of accounts of the management of well conducted farms, one of which will be found in the present number of the Farmer. We copy this the more readily for the demonstration it affords of the expediency of manuring and renovating old lands in preference to clearing up new. If every farmer would furnish a detailed account of the management of his farm for publication, it would do a greater service to our country than any act they can possibly perform. We of course allude to systematic farmers—those who pursue no regular system, may occasionally afford a paragraph giving an account of some new fact or interesting result; but no one who suffers himself to be regulated by the doctrine of chances can ever be useful as an agricultural instructor. We solicit of all our subscribers detailed accounts of their system of management, from seed-time to harvest, and from harvest to seed-time.—Those who have renovated old lands, and those who have improved poor new lands, and all who have pursued any practice differing from the common routine, whether in some particular item or in the general management of their farms, may do essential service by giving us the details. And here let us remark, that we only require the plain facts, and will take care of the style in which they shall appear. The writer of the following letter is able to furnish many useful hints, notwithstanding his self-supposed want of experience, and we shall expect that his pen will not be allowed to be idle. We have no doubt the brief account he gives of his mode of managing sheep will be considered valuable by many persons. As to his mode of supplying his sheep and cattle with salt, we have no doubt it is the best that can be adopted in this country. In countries where it can be obtained large blocks of rock salt are placed in the pens and sheds for the stock to lick when they please; and this would be a very good plan for us to pursue if we could get salt in this form.

Mr. Smith: *Gordon's Dale, July* 16, 1831.

I am anxiously waiting for the prize essays which are soon to appear in the Farmer. Though highly interested in all subjects connected with agriculture, I consider myself too young and inexperienced as yet to enter the lists. Much harm is done in this science by persons publishing the results and deductions of too limited or careless experiments, &c. I am this year doing without an overseer, (a thing that has never before occured on this farm during three generations,) and have as yet cause to be pleased with the experiment. My principal hope of success is in exalting the moral character of the negroes. No spirits are used on the farm upon any occasion. This is becoming quite the fashion with our most enlightened farmers.

Much has been said of late about the health and management of sheep, and as mine have been preserved free of all diseases and in excellent thrift, I will state to you my treatment in respect to a few particulars. They are kept upon a blue grass field, which serves them perfectly both summer and winter, unless the ground may be covered with snow. I have a hickory pole about 12 inches in diameter at the large end—barked, and one side blazed and holes bored two inches in diameter, three inches deep and five inches apart from end to end, these are filled with salt twice a week, and in the winter, and early in the spring, a little tar is placed in the bottom of each hole, or hickory ashes are mixed with the salt. The pole is moved about upon the poorest places in the field. All my stock is salted in the same way—and my desire is to enable the stock to get a portion of salt nearly every day in the week. My young sheep 13 months old yielded last May from 7 to 9 lbs. superior wool. I change the ram every two years—not permitting him to go to his own lambs—nor the young ewes to take a ram until a year old. The ram is separated from the flock excepting at a particular season. That season should commence in our latitude in October or in March, so as to prevent the lambs coming during very cold weather.

Respectfully, yours, &c. R. E. P.

To the many inquiries as to the expense of conducting the Orange farm, that an idea may be formed as to the profits, we are obliged for the present to be content with replying, that the profits of the farm are every way satisfactory to both proprietor and manager. The proprietor receives a stipulated sum periodically, and of course does not require an exhibit of the farm accounts. The manager is absent at present, but we shall on his return solicit a view of the other side of his leger, for the gratification of our numerous correspondents. We would suggest, however, that the situation of a tenant at will, (which by the way, in this case we consider as permanent as that of a life lease,) is very different from that of one who manages *his own* farm—the former may have very natural objections to the exposure of the amount of his profits which would not be operative on the latter.

Philadelphia, *July* 16, 1831.

Flour and Meal.—Superfine flour is taken for export in small parcels at $5 for fresh ground, and $4.75 for old, and $4.50 Susquehanna, the sales amounting to about 1000 barrels at these prices, principally of the former description. Considerable sales have been made to bakers during the week, of different descriptions, which have varied in prices according to the condition of the article. About 700 barrels rye flour sold at $3.25, yesterday that price was refused, the principal stock on hand being limited as high as $3.50. Sales of 250 hhds. corn meal at 15.50, and about 300 brls. at $3.25.

Grain.—The principal transactions in wheat have been from store, and taken in small lots by starch makers at $1.06 a $1.10 for red, and $1.14 a $1.15 for white; one or two cargoes sold on the Schuylkill at $1.03 a $1.10, according to the quality. But little corn at market, and no demand for export: one or two cargoes, lower county, sold at quotations. Rye and oats remain as last reported.—*Price Current.*

FOREIGN MARKETS.

Liverpool, *June* 3.

The sales of cotton this week will not be as large as the last. The price is steady, and at one time we had even the appearance of a trifling improvement. But this passed away again, and the market falls as flat as ever. The demand for flour is moderate. The price pretty steady.

A letter of the 2d, says, "the sales of cotton yesterday, were three thousand bags, and there is a fair inquiry this morning at steady prices. In flour, but little is doing to-day—holders are, however, firm at the present quotations, which are, for N. York, 35 to 36s. per bbl. duty paid, and 28 to 29s per bbl. in bond."

Prices Current in New York, July 16.

Beeswax, yellow 22 a 23. *Cotton*, New Orleans .10 a .12; Upland, .8½ a .10½; Alabama, .8 a 11½. *Cotton Bagging*, Hemp, yd. 18 a 20; Flax 12½ a 16; *Flax*, American, 7 a 8.——*Flaxseed*, 7 bush. clean .—— a .—— *Flour*, N. York, bbl. 4.75 a 5.00; Canal, 5.12 a 5.50; Balt. Hwd.st. —— a 5.25; Rh'd. city mills —— a —— country, 4.75 a 5.00; Alexand'a, 4.75 a 5.12; Fredericksburg 4.62 a ——; Petersg. 4.62 a 4.75; Rye Flour, 3.50 a 3.62; Indian Meal, per bbl. 3.37 a 3.50; per hhd. 17.00 a 17.25; *Grain*, Wheat, North, —— a ——; Vir. 90 a 1.00; Rye, North, 72 a 73; Corn, Yel. Nor. 66 a 70; Barley, — a —; Oats, South and North, .32 a .37; Peas, white, dry, 7 bu. 5. Beans, 7 bu. 7.00 a 8.00. *Provisions*, Beef, mess 8.50 a 9.00; prime 5.75 a 6.00; cargo 4.62½ a 5.00; Lard, 9 a .10½; Pork, mess, bbl. 14.50 a 15.25; prime 10.50 a 11.75.

FRESH TURNIP SEED.

450 lbs. of white flat TURNIP SEED of the present year's growth, raised by the subscribers, and warranted first quality, also for sale Swedish or Ruta Baga seed, and will be received in a few days some genuine Yellow Bullock Turnip seed.

SINCLAIR & MOORE,
July 22. Near Pratt Street Wharf.

J. S. EASTMAN,
No. 36, *West Pratt Street,*

OFFERS, at *Wholesale and Retail*, Hay and Manure FORKS, and Scythe SNEADS.—Also for sale, Grain CRADLES, and Cradle SCYTHES, Grass SCYTHE, English and American, with and without Sneads, Wheat FANS. Scythe STONES, &c. &c. Together with his usual assortment of PLOUGHS, and other AGRICULTURAL IMPLEMENTS, Garden Seeds, &c.

A fresh supply of FLOWER SEEDS, just received from the Messrs. Landreth's.

June 3.

WOOL WAREHOUSE.
LYMAN REED,
Commission Merchant, No. 195 *Baltimore street,*

Devotes particular attention to the sale of WOOL. Any consignments of the article forwarded to him for sale, can be disposed of immediately for CASH, at the highest market price.

CASH, and a fair price, will be paid for a few thousand pounds of *good wool*, (if offered immediately,) to supply orders now on hand.

Refer to Messrs. Cobb, Wyman & Co. Baltimore.

CASH FOR WOOL.

The subscriber is in this market as a purchaser of wool for eastern manufacturers, and will pay cash and fair market prices for every description of American wool. RICH'D MESSITER,
No. 5 Light street wharf, up stairs.
May 20. 2 m.

BALTIMORE PRICES CURRENT.

Baltimore Market.—There is no change in the prices of produce For fresh ground Howard street flour, $5 is demanded—the wagon price is $4.87½. There has a few lots of new wheat come in, which were sold within the range of our quotations, according to quality. Corn continues to decline, and rye remains stationary.

Tobacco.—Seconds, as in quality, 3.00 a 5.00; do ground leaf, 5.00 a 9.00.—Crop, common, 3.50 a 4.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 10 00; yellow and red, 8.00 a 14.00; yellow, 14 00 a 16.00.—Fine yellow, 16.00 a 20.00.—Virginia, 4.00 a 5.00.—Rappahannock, 3.00 a 4.00——Kentucky, 3.50 a 8.00. The inspections of the week comprise 206 hhds. Md.; 66 hhds. Ohio; 18 hhds. Virginia; and 2 hhds. Kentucky;—total 292 hhds.

Flour—best white wheat family, $6 00 *a* 6.50—super. Howard-st. fresh $5.00; city mills, fresh, 5.25 Susq. 4.50 *a* ——; Corn Meal, bbl. 2.25; Grain, Md. red wheat, 90 *a* 1.00; white do. 1.05 *a* 1.15, Susq. 1.05 *a* 1.09-Corn, white, 60 *a* 62--yellow 58 *a* — Rye, 60 *a* 61. Oats, .33 *a* 34. Beans, 75 *a* 80--Peas, 65 *a* 70--Cloverseed —— *a* ——Timothy, 2.00 *a* 2.50—Orchard Grass —— *a* ——Tall Meadow Oat Grass 2.75--Herd's, 50 *a* 75--—Lucerne 30 *a* 37½ lb.——Barley, ——Flaxseed —— *a* ——Cotton, Va. 9 *a* 9½—Louisiana 10¾ *a* 11½—Alab. 9½ *a*. 11—Tenn.. 9 *a*. 10——N. Car.. 9 *a*. 9½——Upland 8 *a* 9½—Whiskey, hhds 1st p. — *a* 33—; in bbls 35 *a* 36——Wool, *Washed*, Prime or Saxony Fleece 60 *a* 67; American Full Blood, 56 *a* 60; three quarters do. 52 *a* 56; half do. 47 *a* 52; quarter and common do. 42 *a* 47. *Unwashed*, Prime or Saxony Fleece, 40 *a* 45; American Full Blood, 37 *a* 40; three quarters do. 35 *a* 37; half do. 33 *a* 35; quarter and common, 30 *a* 33——Hemp Russia ton, $255 *a* —; Country, dew-rotted, 6½ *a* 7½c. lb. water-rotted, 7½ *a* 9c.—Feathers, 35 *a* 36; Plaster Paris per ton, —— *a* 4.00, ground, 1.37½ *a* —— bbl. Iron, gray pig for foundries per ton 33.00 *a* ——; high pig for forges, per ton, 28.00 *a* 30.00; bar Sus. per ton, 72.50 *a* 80.00.—Prime Beef on the hoof, 5.00 *a* 5.50—Oak wood, 3.00 *a* 3.25--Hickory, 4.25 *a* 4.50—Pine 2.00 *a* 2.25.

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EDITED BY GIDEON B. SMITH.

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AGRICULTURE.

(From the New England Farmer.)

ON THE HORSE AND OX.

BY PRESIDENT MADISON.

I cannot but consider it as an error in our husbandry, that oxen are too little used in place of horses.

Every fair comparison of the expense of the two animals, favors a preference of the ox. But, the circumstance particularly recommending him, is that he can be supported when at work, by grass and hay: while the horse requires grain, and much of it, and the grain generally given him is Indian corn, the crop which requires most labor, and greatly exhausts the land.

From the best estimate I have been enabled to form, more than one half of the corn crop is consumed by horses, including the ungrown ones; and not less than one half, by other than pleasure horses. By getting free from this consumption, one half of the labor and of the wear of the land would be saved, or rather more than one half. For on most farms, one half of the crop of corn grows on not more than two fifths, and sometimes a smaller proportion of the cultivated fields; and the more fertile fields would of course be retained for cultivation. Every one can figure to himself the ease and conveniency of a revolution, which would so much reduce the extent of his cornfields: and substitute for the labor bestowed on them, the more easy task of providing pasturage and hay.

But will not the ox himself, when kept at labor, require grain food as well as the horse? Certainly much less, if any. Judging from my own observation I should say, that a plenty of good grass or good hay, will suffice without grain, where the labor is neither constant nor severe. But I feel entire confidence in saying, that a double set of oxen alternately at work, and therefore half the time at rest, might be kept in good plight without other food than a plenty of good grass or good hay. And as this double set would double the supply of beef, tallow and leather, a set off is found in that consideration for a double consumption of that kind of food.

The objections generally made to the ox, are, viz: 1. That he is less tractable than the horse. 2. That he does not bear heat as well. 3. That he does not answer for the single plough used in our cornfields. 4. That he is slower in his movements. 5. That he is less fit for carrying the produce of the farm to market.

The first objection is certainly founded in mistake. Of the two animals, the ox is the most docile. In all countries where the ox is the ordinary draught animal, his docility is proverbial. His intractability, where it exists, has arisen from an occasional use of him only with long and irregular intervals; during which, the habit of discipline being broken, a new one is to be formed.

The second objection has but as little foundation. The constitution of the ox accommodates itself, as readily as that of the horse, to different climates.—Not only in ancient Greece and Italy, but throughout Asia, as presented to us in ancient history, the ox and the plough are associated. At this day, in the warm parts of India and China, the ox, not the horse, is in the draught service. In every part of India, the ox always appeared, even in the train of her armies. And in the hottest parts of the West Indies, the ox is employed in hauling the weighty produce to the sea ports. The mistake here, as in the former case, has arisen from the effects of occasional employment only, with no other than green food. The fermentation of this in the animal heated by the weather, and fretted by discipline, will readily account for his sinking under his exertion; when green food even, much less dry, with a sober habit of labor, would have no such tendency.

The third objection also, is not a solid one. The ox can, by a proper harness, be used singly as well as the horse, between the rows of Indian corn: and equally so used for other purposes. Experience may be safely appealed to on this point.

In the fourth place, it is alleged that he is slower in his movements. This is true; but in a less degree than is often taken for granted. Oxen that are well chosen for their form, are not worked after the age of about eight years, (the age at which they are best fitted for beef,) are not worked too many together, and are suitably matched, may be kept to nearly as quick a step as the horse. May I not say, a step quicker than that of many horses we see at work, who, on account of their age or the leanness occasioned by the costliness of the food they require, lose the advantage where they might have once had it!

The last objection has must weight. The ox is not so well adapted as the horse to the road service, especially for long trips. In common roads, which are often soft, and sometimes suddenly become so, the form of his foot and the shortness of his leg, are disadvantages; and on roads frozen or turnpiked, the roughness of the surface in the former case, and its harshness in both cases, are inconvenient to his cloven hoof. But where the distance to market is not great, where the varying state of the roads and of the weather, can be consulted; and where the road service is in less proportion to the farm service, the objection is almost deprived of its weight. In cases where it most applies, its weight is diminished by the consideration, that a much greater proportion of service on the farm may be done by oxen, than is now commonly done; and that the expense of shoeing them, is little different from that of keeping horses shod. It is observable, that when oxen are worked on a farm, over rough frozen ground, they suffer so much from the want of shoes, however well fed they may be, that it is a proper subject for calculation, whether true economy does not require for them that accommodation, even on the farm, as well as for the horse.

A more important calculation is—whether in many situations, the general saving by substituting the ox for the horse would not balance the expense of hiring the carriage of the produce to market. In the same scale with the hire, is to be put the value of the grass and hay consumed by the oxen; and in the other scale, the value of the corn, amounting to one half of the crop, and of the grass and hay consumed by the horses. Where the market is not distant, the value of the corn would certainly pay for the carriage of the market portion of the crop, and balance moreover, any difference between the value of the grass and hay consumed by oxen, and the value of the oxen when slaughtered for beef. In all these calculations, it is doubtless proper not to lose sight of the rule, that farmers ought to avoid paying others for doing what they can do for themselves. But the rule has its exceptions: and the error, if it be committed, will lie not in departing from the rule, but in not selecting aright the cases which call for the departure. It may be remarked, that the rule ought to be more or less general, as there may be, or may not be at hand, a market by which every produce of labor is convertible into money. In the old countries, this is much more the case than in new; and in new, much more the case near towns, than at a distance from them. In this as in most other parts of our country, a change of circumstances is taking place, which renders every thing raised on a farm more convertible into money than formerly; and as the change proceeds, it will be more and more a point for consideration, how far the labor in doing what might be bought, could earn more in another way, than the amount of the purchase. Still it will always be prudent, for reasons which every experienced farmer will understand, to lean to the side of doing rather than hiring or buying what may be wanted.

The mule seems to be in point of economy, between the ox and the horse, preferable to the latter, and inferior to the former; but so well adapted to particular services, that he may find a proper place on many farms. He is liable to the objection which weighs most against the ox. He is less fitted than the horse for road service.

(From the New England Farmer.)

ANECDOTES OF SHEEP.

BY THE ETTRICK SHEPHERD.

The sheep has scarcely any marked character save that of natural affection, of which it possesses a very great share. It is otherwise a stupid, indifferent animal, having few wants and fewer expedients. The old black faced, or forest breed, have far more powerful capabilities than any of the finer breeds that have been introduced into Scotland, and therefore the few anecdotes that I have to relate shall be confined to them.

I have heard of sheep returning from Yorkshire to the Highlands. This is certain, that when one, or a few sheep, get away from the rest of their acquaintances, they return homeward with great eagerness and perseverance. I have lived beside a drove road the better part of my life, and many stragglers have I seen bending their steps northward in the spring of the year. A shepherd rarely sees these journeyers twice. If he sees them, and stops them in the morning, they are gone long before night; and if he sees them at night they will be gone many miles before morning. This strong attachment to the place of their nativity is much more predominant in our aboriginal breed, than in any of the other kinds with which I am acquainted.

A shepherd in Blackhouse bought a few sheep from another in Crawmel, about ten miles distant. In the spring following, one of the ewes went back to her native place, and yeaned on a wild hill called Crawmill Craig. On a certain day about the beginning of July following, the shepherd went and brought home his ewe and lamb—took the fleece from the ewe, and kept the lamb for one of his stock. The lamb lived and throve, and never offered to leave home, but when three years of age, and about to have her first lamb she vanished; and the morning after the Crawmel shepherd, in going his rounds found her with a new-yeaned lamb on the very gair of the Crawmel Craig, where she was lambed herself. She remained there till the first week of July, the time when she was brought a lamb herself, and then she came home with hers of her own accord; and this custom she continued annually with the greatest punctuality as long as she lived. At length her lambs, when they came of age, began the same practice, and the shepherd was obliged to dispose of the whole breed.

But with regard to their natural affection, the instances that might be mentioned are without number, stupid and actionless creatures as they are. When one loses its sight in a flock of short sheep it is rarely abandoned to itself in that hapless and helpless state. Some one always attaches itself to it, and by bleating calls it back from the precipice, the lake, the pool, and all dangers whatever.

There is another manifest provision of nature with regard to these animals, which is, that the more inhospitable the land is on which they feed, the greater their kindness and attention to their young. I once herded two years on a wild and bare farm, called Willenslee, on the border of Mid Lothian, and of all the sheep I ever saw, these were the kindest and most affectionate to their young. I was often deeply affected at scenes which I witnessed there. We had one very hard winter, so that our sheep grew lean in the spring, and the thwarter-ill, (a sort of paralytic affection) came among them, and carried off a number. Often have I seen these poor victims when fallen down to rise no more, even when unable to lift their heads from the ground, holding up the leg, to invite the starving lamb to the miserable pittance that the udder still could supply. I had never seen aught more painfully affecting.

It is well known that it is a custom with shepherds, when a lamb dies, if the mother have sufficiency of milk, to bring her in and put another lamb to her. I have described the process somewhere else—it is done by putting the skin of the dead lamb upon the living one, the eye immediately acknowledges the relationship, and after the skin has warmed on it, so as to give it something of the smell of her own progeny, and it has sucked her two or three times, she accepts and nourishes it as her own ever after. Whether it is from joy at this apparent reanimation of her young one, or a little doubt remaining on her mind that she would fain dispel, I cannot decide, but, for a number of days, she shows far more fondness, more bleating, and caressing, over this one, than she did formerly over the one that was really her own.

But this is not what I wanted to explain; it was, that such sheep as thus lose their lambs must be driven to a house with dogs, so that the lamb may be put to them; for they will only take it in a dark confined place. But here, in Willenslee, I never need to drive home a sheep by force, with dogs, or in any other way than the following:—I found every ewe, of course, standing hanging her head over her dead lamb, and having a piece of twine with me for the purpose, I tied that to the lamb's neck or toes, and trailing it along, the ewe followed me into any house or fold that I chose to lead her. Any of them would have followed me in that way for miles, her nose close on the lamb, which she never quitted for a moment, except to chase the dog, which she would not suffer to walk near me. I often, out of curiosity, led them in to the side of the kitchen fire by this means, into the midst of servants and dogs, but the more the dangers multiplied around the ewe, she clung the closer to her dead offspring, and thought of nothing but protecting it.

(From Loudon's Encyclopædia of Agriculture.)

SHEEP IN SPAIN.

The sheep in Spain have long been celebrated. Pliny relates, that in his time Spanish cloths were of an excellent texture, and much used in Rome. For many centuries the wool has been transported to Flanders, for the supply of the Flemish manufactories, and afterwards, to England, when the same manufacture was introduced there. By far the greater part of Spanish sheep are migratory, and belong to what is called the mesta or Merino corporation; but there are also stationary flocks belonging to private individuals in Andalusia, whose wool is of equal fineness and value. The carcass of the sheep in Spain is held in no estimation, and only used by the shepherds and the poor.

The flocks which form the mesta usually consist of about 10,000 sheep. Each flock is under the care of a directing officer, fifty shepherds and fifty dogs. The whole flock composing the mesta, consist of about five millions of sheep, and employ about 45 or 50,000 persons, and nearly as many dogs. The flocks are put in motion the latter end of April, or beginning of May, leaving the plains of Estramadura, Andalusia, Leon, Old and New Castile, where they usually winter; they repair to the mountains of the two latter provinces, and those of Biscay, Navarre, and Arragon. The sheep, while feeding on the mountains, have occasionally administered to them small quantities of salt. It is laid upon flat stones, to which the flocks are driven, and permitted to eat what quantity they please.

In September the sheep are ochred, their backs and loins being rubbed with red ochre, or ruddle dissolved in water. This practice is founded upon an ancient custom, the reason of which is not clearly ascertained. Some suppose that the ochre uniting with the oleaginous matter of the fleece, forms a kind of varnish which defends the animal from the inclemency of the weather. Others think the ponderosity of this earth prevents the wool growing too thick and long in the staple. But the more eligible opinion is, that the earth absorbs the superabundant perspiration, which would otherwise render the wool both harsh and coarse.

Towards the end of September, the flocks recommence their march. Descending from the mountains, they travel towards the warmer part of the country, and again repair to the plains of Leon, Estramadura, and Andalusia. The sheep are generally conducted to the same pastures they had grazed the preceding year, and where most of them had been yeaned; there they are kept during the winter.

Sheep shearing commences the beginning of May, and is performed while the sheep are on their summer journey, in large buildings. Those which are placed upon the road are capable of containing forty, fifty, and some sixty thousand sheep. The shearing is preceded by a pompous preparation, conducted in due form, and the interval is considered a time of feasting and recreation. One hundred and twenty-five men are usually employed for shearing a thousand ewes, and two hundred for a thousand wethers. Each sheep affords four kinds of wool, more or less according to the parts of the animal whence it is taken. The ewes produce the finest fleeces and the wethers the heaviest; three wether fleeces ordinarily weigh on the average twenty-five lbs.; but it will take five ewe fleeces to amount to the weight.

The journey which the flocks make in their peregrination is regulated by particular laws, and immemorial customs. The sheep pass unmolested over the pastures belonging to the villages and the commons which lie in their road, and have a right to feed on them. They are not, however allowed to pass over cultivated land; but the proprietors of such lands are obliged to leave for them a path, about forty toises (eighty-four yards) in breadth. When they traverse the commonable pastures, they seldom travel more than five miles or five and a half miles a day; but when they walk in close order over the cultivated fields, often more than six varas, or near seventeen miles. The whole of their journey is usually an extent of one hundred and twenty, thirty, or forty leagues, which they perform in thirty or thirty-five days. The price paid for depasturing the lands, where they winter, is equally regulated by usage, and is very low: but it is not in the power of the landed proprietors to make the smallest advance.

The public opinion in Spain has long been against the mesta, on account of the number of people it employs, the extent of land it keeps uncultivated, the injury done to the pasture and cultivated lands of individuals, and the tyranny of the directors and shepherds. These have been grievances from time immemorial. Government yielding to the pressing solicitations of the people, instituted a committee to inquire into them about the middle of the eighteenth century; but it did no good, and it was not till the revolution of 1810, that the powers and privileges of the mesta were greatly reduced.

FARMER'S WORK FOR JULY.

The following valuable observations on harvesting grain, are from *Lorain's Husbandry.*

Custom has induced farmers generally to believe, that it is an improper and wasteful practice to cut either wheat or rye with the scythe and cradle. If the grain be neither lodged nor entangled, it may be cut off as clean by the scythe and cradle, as by the sickle. If it be properly gathered and bound, but little, if any, more loss will arise from gathering it in this way. If the grain be cradled in proper time, it shatters less, on the whole, than when it is reaped and secured in the usual way. It is readily granted that if grain be cradled and reaped at the same time, it shatters more by the former practice. It should be recollected, however, that the very tardy progress of the sickle greatly increases the shattering, by procrastinating the harvest so long that the chaff opens, and much of the grain falls out. Whereas the rapid progress of the scythe and cradle cuts off the grain, before any material loss from shattering can take place, if the cultivator commences in time. No evil, but much good, will arise from beginning early. This not only prevents shattering, but also the risk of encountering the various injuries to which the crop is exposed by useless delay. Some farmers of the first respectability assert, that practice and observation have convinced them, that the grain, and also the flour, are best when wheat is cut much before the usual time. This, however, does not accord with my practice. The middle course, between the extremes of cutting very early, or at the usual time, will be found the best; except when mildew occurs. In that case, wheat should be cut immediately after it can be determined that the disease is severe. If the crop is only slightly affected, it is far better to let it stand until the grain be fit to cut.

Many judicious, and well attested experiments determine, that when wheat is badly injured by mildew, the grain gets no better, if it be suffered to stand. That if it be cut off immediately after the injury is seen, the grain actually derives very considerable advantage from the sap contained in the straw.

Bad cradlers, and bad reapers, destroy much grain: infinitely more, however, is lost by those who could perform either well, if harvest was not considered, as the holidays too generally are, a time for drinking to excess. This renders many incapable of doing any thing properly. Others, who are not quite so far gone, are disposed to run races a part of the day, and spend the rest of it in drinking under the shade, or in quarrelling and fighting.

In fact, too many of the laboring part of the community are, at this season of the year, more like drunken savages than members of a civilized community. This evil does not spring either from benevolence or hospitality in their employers. Avarice seems to have been the first moving cause of this enormity. In direct opposition to the laws of God, and the reason of man, this contemptible, selfish principle, induced many to outbid their neighbors by a more plentiful supply of ardent spirits.

If those farmers had known their own interest, or wished to promote the interest, and rational happiness of those employed by them, or to act as men professing christianity should, or, indeed, as an infidel would act, if he were not blinded by a false estimate of self interest, this shocking practice would not have been introduced.

Every farmer who wishes to promote the interest of agriculture, should set his face against it, and in lieu of whiskey, &c. pay an equivalent in money. I have never found it difficult to procure, either in the back-woods, or elsewhere, as full a supply of workmen as my neighbors, who gave them as much ardent spirit as they would drink, although they got none of this from me. After the harvest was over, it was clearly seen, that the workmen were far better satisfied with receiving an equivalent in money, in place of injuring their health by drinking ardent spirits to the amount of it. It is not, however, in my practice only, that the beneficial effects of not allowing workmen either in harvest, or any other time, intoxicating liquors appear. There are many farmers in Pennsylvania, who would sooner suffer their grain to rot on the ground, than sanction this enormity.

Now, it is very observable, that these men never suffer by this arrangement; on the contrary, their fields are cleaner reaped, and with much less trouble and expense. Why then, is not this disgraceful practice, of injuring the morals, health, reputation, and circumstances of neighbors abandoned? especially, as in doing this, we also injure ourselves.

ENGLISH TURNIPS.

The time generally recommended for sowing English turnip seed is the latter part of July. Dr. Deane, however, observed, "I have sowed them in drills the first week in August, and had a good crop. One great advantage in sowing so late is that the turnips will escape insects. And if the crop should not happen to be quite so large as if the sowing had been earlier, the roots will not fail of being better for the table.

"One pound of seed is the common allowance for an acre of land. But to guard against the fly the quantity may be a little increased,

"The seed, sown broadcast, must be harrowed in with a short tined harrow, and then rolled with a wooden roller, to break the clods, and level the surface."

It is not yet too late to break up mowing or pasture ground, and raise a crop of turnips without the expense and trouble of yarding cattle or sheep on the ground, according to the customary mode of preparing for a turnip crop. Sowing broad cast will do well; but sowing in drills will do better. In either case the crop will be the better for hoeing and thinning out the superfluous plants. If the soil is not very poor a good crop may be obtained, even without manure, but a much better with manure. Wood ashes, soot and lime are said to be preferable, as manure for turnips to that which is obtained from the farm-yard.

Turnips may also be raised to great advantage in cornfields. For this purpose sow a sufficient quantity of seed at the last dressing of the corn, and either hoe or rake it in.

Ellis, an old and judicious writer on husbandry, recommends soot as an antidote against the fly in turnips; and says "turnips sooted about 24 hours after they are up, will be entirely secured from the fly. Some advise, and it may be well, if not too much trouble, to leach soot, and sprinkle the young turnips with the liquor. It is recommended in hoeing turnips to thin them so as to leave the plants from seven to twelve inches apart every way, regulating the distance at which they are left standing according to the time of sowing, the strength of the soil, and probable size of the full grown plant.

The time of the first hoeing is when the leaves, as they lie spread on the ground are about the size of the palm of the hand. But if the weeds are numerous and grow rapidly they should be cut or pulled out before the turnip plants arrive to that size, lest they should be drawn up slender and acquire a feeble and sickly habit. If second and third hoeings are given in the course of culture, the crop and the benefit to the soil will more than compensate for the extra trouble and expense.

Loudon says that dusting rows of turnip plants, when they are in the seed leaf, is effectual in preventing the depredations of the fly. "A bushel of quick lime," he says, "is sufficient to dust over an acre of drilled turnips, and a boy may be soon taught to lay it on almost as fast as he can walk along the drills. If the seminal leaves are powdered in the slightest degree it is sufficient; but should rain wash the lime off, before the turnips are in the rough leaf, it may be necessary to repeat the operation if the fly begins to make its appearance."—*N. E. Farmer.*

(From the Georgetown Union.)

STATE OF LOUISIANA.

PARISH OF RAPIDE.

I, Robert L. Tanner, of the aforesaid state and parish, resident of Bayou Boef, do hereby certify that in the year 1830, I did plant 68 acres of cotton, six acres of sugar cane, two acres of potatoes and slips, and 34 of corn, off of which land I gathered the following crop, to wit:

I gathered 99 bales of cotton averaging 531 pounds, equal to 106 bales of 400 lbs. left at least twenty bales in the field. The sugar cane was perhaps as good as any in the parish, sweet from four to five feet high, but in consequence of having no sugar mill of my own was obliged to abandon it to the frost, with the exception of enough to make 150 gallons of molasses. I did, however, in the month of November, when I was picking two bales of cotton per day, stop all hands and stacked it in two days. It would have made had it been ground in time, at least 12 hhds. of 1000 lbs. each.

I gathered 51 wagon loads of corn; the wagon I suppose would have held, and I was told by the owner it did hold, 18 barrels or 27 bushels, making 918 barrels or 1377 bushels. On the same land I suppose there was 100 wagon loads of pumpkins, and the peas and pea vines covered the cornfield at last two feet deep all over, there was not a stalk of corn to be seen, perhaps as many if not more peas than ever was seen on the same sized piece of ground. I got a good many potatoes, how many I cannot tell, and an abundance of turnips which were planted in the fence corners for want of a better place; which crop was planted, attended and gathered with 10 hands with the exception of about five bales cotton which I hired the picking out. I lost from the first of September till the middle of November at least five months work with one hand with sickness among the negroes, and made in intervals $250 worth of picket fence and house building.

Given under my hand at my house this 29th day of March, 1831. Robert L. Tanner.

I further certify that I had a little negro girl, about seven years old, that picked 110 pounds of cotton in one day, and did average 100 pounds for six days together. R. L. T.

—

State of Louisiana, Parish of Rapide.

I, Appleton Gay, of the said state and parish, do hereby certify that I planted 70 acres of cotton, and 30 acres of corn, with seven hands and a boy, and an acre of potatoes. I gathered 97 bales of cotton, weighing 400 lbs. each, and 816 bushels of corn and a good crop of potatoes for the ground.

Given under my hand this 30th day of March 1831. Appleton Gay.

—

This is to certify that with 15 hands I made the following crop on Bayou Boef, Rapide Parish, state of Louisiana, in the year 1830.—200 bales of cotton, average weight 400 lbs; 3000 bushels corn; six hhds. sugar. That I lost cotton enough in the field, which could not be picked out, to make fully 50 bales more; and at least sugar cane to have made 6 hhds. besides tending five acres of potatoes which produced well.

Given under my hand this 4th day of April, 1831.

Wm. H. Cureton.

—

Alexandria, March 24, 1831.

Mr. William Plunkett, who resided the past year in the Parish of Rapide, on the Red river, cultivated 90 acres of cotton and ten acres of corn with 7 hands, consisting of four males and three females. The product of their labour was 84 bales of cotton, averaging 430 lbs. per bale and 400 barrels of corn. The whole performed by the labour of the above number of hands alone, and completed by the first day of December, besides performing all other duties incidental to a plantation.

I certify the above statement to be strictly true.

Test—S. E. Cuny. Wm. Plunkett.

—

I hereby certify that last year I planted 125 acres of cotton, worked twenty hands, made to the amount of 187 bales weighing four hundred each—planted 80 acres of corn and made 2,500 bushels, three acres of potatoes, pumpkins and peas, in abundance. Suppose forty or fifty bales of cotton lost in the field for want of hands to pick it out. Good field hands will through the season pick out from two to three hundred weight per day. I hired a white lad about 15 years old, small of his age, who one day picked out 415 pounds good cotton. Robert Tanner.

March 29th, 1831.

—

I hereby certify that the following is a statement of the crop made by me on Bayou Boef, Rapide Parish, in the state of Louisiana, in the year 1830, with 15 hands. I planted about 140 acres in cotton and made 143 bales average weight of each bale 400 lbs.

I also planted 90 acres in corn which produced 4500 bushels, planted and tended 15 acres in sugar cane, and cut and stacked it, but in consequence of having no mill and having had a hard winter, the frost ruined it, which would have made 30 hhds. besides pumpkins and a good crop of peas and potatoes.

March 29th, 1831. Joseph Tanner.

FEEDING CATTLE.

"In young growing animals the powers of digestion are so great, that they require food which is less rich, than such as are of mature age. They also require more exercise. If rich food is supplied in liberal quantities, and exercise withheld, diseases are generated, the first of which may be excessive fatness: growth is impeded by very rich food, for experience shows, that the coarsest fed animals have the largest bones. Common sense will suggest the propriety of preferring a medium course between very rich and very poor nutriment."—*Loudon.*

Regularity of feeding cattle is of prime importance. Three times a day, precisely at a certain hour, cattle, according to Mr. Lawrence, should be furnished with their food. Mr. Deane observed, that neat cattle and horses should not have so much laid before them at once as will quite serve to fill them. The hay they have breathed on much they will not eat up clean, unless they are very hungry. It is best, therefore, to fodder them twice at night, and twice in the morning. Let neat cattle as well as horses have both light and fresh air let in upon their fodder when the weather is not too cold and stormy to allow the windows to be open. What one sort of cattle leave should be thrown to another sort. Those that chew the cud will eat the leavings of those that do not, and *vice versa.*

MANURE.

Farmers might make a valuable addition to their farm-yard manure, by digging a hole at a convenient distance from their kitchen, about three or four feet deep, and sufficiently wide to form a common receptacle for the various matters originating in, and about the house, extending a paved gutter from the kitchen to it, to conduct soap suds and other useless slops into it. When it becomes offensive, the offending matter should be covered with earth. That which was thrown up in digging the hole may be applied so long as it lasts. Care should be taken to prevent the water from without from running into it. The receptacle may be hid from sight, by planting an evergreen hedge around it, leaving an opening at the back for putting in and taking out the contents.

[*N. E. Farmer.*

IMPROVED PLOUGH.

Mr. Barnabas Thatcher, an ingenious mechanic of Barnstable, has invented a plough in some respects superior to those in common use.—The improvement consists of a moveable beam, to which a perpendicular motion can be given by means of two nuts on the end of the coulter, (one above and the other below the beam,) and the depth of the furrow thereby regulated. To the end of the beam inserted in the handle, an iron, bent at right angles, is affixed. The bent part of which passes through the handle, and has a nut on each side, by which a horizontal movement can be given to the beam, and the furrow cut of any desirable width.—*Barnstable Journal.*

HORTICULTURE.

HERBEMONT'S MADEIRA.

Lin. Bot. Garden, Flushing,
Mr. Smith. *June* 14, 1831.

Dear Sir,—I have been extremely gratified at the remarks of N. Herbemont, Esq. in your paper of 10th inst. relative to the "Herbemont's Madeira" grape, wherein he states the probability that it may prove to be a native of the American forests. The same idea struck me most forcibly about a year since, when examining the foliage and the wood. I only hesitated in my decision in consequence of its being forwarded to me as a *foreign vine* by several of the most intelligent cultivators of Georgia, including Mr. Herbemont and Mr. Tho. McCall— I however, went so far as to insert the following quere in several letters written during the past year to intelligent correspondents, "*what think you of the Herbemont's Madeira or Warrenton grape proving a native?*" Such being my impression I am gratified to know that the supposition of its foreign origin may prove erroneous, and still more so by the fact that one of the most distinguished horticulturists referred to, has adopted this opinion. Very respectfully,

Wm. Robert Prince.

[We regret that the above letter has been by accident delayed in publication to the present time.—*Ed. Amer. Farmer.*]

(From the Genesee Farmer.)

MELONS.

There are but few people but what are fond of good melons, and yet many neglect to raise them. The finer sorts of muskmelons, such as the minorca, citron, pine apple, and green nutmeg, are wholly unknown to most of our farmers, and even many of our gardeners say that they cannot be raised in this latitude in perfection, without the aid of artificial heat. Now this is altogether a mistake. We have seen them as fine in size and flavor, raised in this neighborhood, as in any part of the world. There are many reasons why people have the impression, that good melons cannot be raised in this section. First—very few have taken the trouble to obtain good seed, and when they have, a smaller number are acquainted with the best method of training them, and the consequence has been, that the melons did not ripen until late in the season, when the weather had become cool, and there was not that relish for them, that would have been, had they ripened during the warmer part of the season; for we can readily conceive that a watermelon at Christmas, would be very much out of place. To ripen melons, early in the season as possible, is desirable. For this purpose, those who have it in their power, can hasten their maturation one month, by planting them in a hot bed; but as this is not always convenient for farmers, we will speak of their treatment in open ground. In the first place, be careful in the selection of seed. Those with green flesh, are of the finest flavor, but do not ripen as soon by a couple of weeks, as some of the coarser kinds, with yellow flesh. The green nutmeg and citron, perhaps, are in as great repute for flavor as any, though they are very small, but their exquisite flavor compensates for their want of size. Most of our vines, as the pumpkin, cucumber and melon, thrive best in new strong soils, but the watermelon, on coarse sand, made rich, as heat is indispensably necessary to their perfection, and such soils become much hotter than those that contain large portions of vegetable matter. By the term new, we mean grounds that have lain in grass, and not that from which the timber has been lately removed. All have noticed how much better pumpkins thrive in cornfields, the first year after breaking up the sward; therefore, in planting melons in gardens, if a wheelbarrow lood of such soil is placed for each hill, mixed with a suitable quantity of manure from the hog pen, it well repays the expense, as in that case, they are not liable to be destroyed by insects in the roots. The ripening of the fruit may be advanced nearly two weeks, by nipping in the leading vines. Muskmelons produce their fruit, at the axiles of the first leaf of the lateral branches. These branches, if the leading branches are allowed to grow, do not shoot out, until the leaders have made growths of considerable length. The leaders are the centre shoots, and one or two of the first branches above the seed leaves; these it will be found upon examination, do not show fruit at the first leaf. All these leaders, should be pinched off at the points, as soon as they have produced about three leaves, which will cause the lateral or bearing branches, to put forth at least one week soooner than they otherwise would. When the bearing branches have put out two leaves beyond the fruit, they should also be nipped off. When the fruit is in flower, they should be examined, as by this method, there will sometimes be a scarcity of male blossoms, and the fruit will drop for want of pollen.

As it is an object to ensure the first setting of the fruit, both on account of ripening early, and its being near the roots of the vine, it is well to go over them, and dust the fruit blossoms artificially. In doing this, always prefer a male blossom from the same vine, if you wish to keep your varieties distinct. Having selected a male flower that is in perfection, touch the anther carefully to the stigma of the female flower, which is on the end of the fruit, by which means the stigma will be covered with the pollen from the male plant; or it may be applied by jarring the male flower directly over the female flower, by which a quantity of the pollen will be detached and fall upon the stigma, by which the fecundation will be accomplished. Although these little manœuvres may seem tedious to those who have not made the experiment, they are easier performed than described, and are well worth the attention of every lover of good melons. A vine should not be allowed to ripen more than two or three melons, as by increasing the number, the size and flavor of the fruit is materially injured. Watermelons, and cucumbers, are not so regular in the setting of their fruit, and of course trimming is not so important, but it is well in gardens where the vines are exposed to the winds, to give a proper direction to leading cucumber vines, and fasten them by sticking small hooks over the branches, to confine them to their places. and when the branches become too thick, they should be cut off as for fruit trees.

(From the Southern Agriculturist.)

OKRA.

"This fine vegetable appears no where to be so justly appreciated as in the neighborhood of Charleston—here it furnishes a portion of the daily food of, we believe, at least three fourths of the inhabitants of the city during its season. In fact, we know of no vegetable which is so generally used by both rich and poor, or which so justly merits the encomiums bestowed upon it. When served up, simply boiled, we admit it is not the most palatable vegetable we ever eat, but in the form of soup, well boiled, with a proper supply of tomatoes, &c. we doubt whether it is excelled by any other in the world, either in flavor, wholesomeness or nutriment. Surely our poor have cause of thankfulness, that our climate admits of its being grown in such quantities as it is. Although in such high estimation among us, yet we have rarely met with it any where else, and where we have, it has not been appreciated, chiefly owing to their ignorance of the proper mode of cooking, for, except in the form of soup, (and that properly cooked,) most persons would pronounce it a sorry vegetable, and unfit for frequent use.

The okra prefers a moist soil, well drained, and on such, if it be but moderately rich, the yield is very great. If such a spot can be had let it be ploughed, or formed into ridges, (or beds) if very low, and subject to much wetness, but if rather high and dry, let the surface remain level. In the former the rows must be from four to five feet apart, or the latter they need not be more than from three and a half to four feet; some plant the seeds in holes, at the distance of from two to three feet, others plant much nigher, and others again drill it. Whatever way it be planted, we recommend that it be thinned out so as to leave each plant separate, and at a distance of two feet apart. This is near enough, and if planted wider, too much ground will be lost in the first instance, although, in very rich ground, a greater produce is obtained at the close of the season, which, however, is at a time, when all have been in some measure satiated; if planted nearer they soon run up and suffer from their contiguity to each other. The after culture is simply to keep them clear of weeds and the ground mellow. In gathering the pods for use, care should be taken to take off every one of a proper size, whether wanted or not. It is a very common practice to take as many as are wanted for immediate use, and the rest are left. These soon become woody, and unfit for the table; they are then left by some designedly for seed; by others through mere inattention or carelessness. But it must be recollected that a large portion of the nourishment of the plant will be immediately diverted from producing new pods to the perfecting the seed contained in these; consequently, if many of these pods be left on a plant, it will soon cease to bear altogether. Let, therefore, every pod be carefully taken off as soon as it arrives at a certain size, and the plant will continue to produce a succession, which would not be the case, if not so managed. Those planted in the spring, generally exhaust themselves by the middle of August, and although they may bear a few, yet if they be wanted later, it is best to plant a successive crop in June, which will continue in bearing until destroyed by a frost."

FALLEN FRUIT.

Be very careful to gather all punctured or decayed fruit, whether on your trees or on the ground, and give them to your hogs. If you do not, the worms which they contain, and which have been the cause of their premature decay, will make their escape into the ground, and you will find the evils which await their visitations will increase upon you another season.

RURAL ECONOMY.

(From the New England Farmer.)

MANUFACTURE OF CHEESE.

Mr. Editor,—If you think the following answers to the questions in the New England Farmer, vol. ix. p. 313, are worth publishing, they are at your disposal; they are compiled from various publications and the unwritten opinions of those experienced in the manufacture of cheese. There are, no doubt, some errors, and the compiler would be highly pleased to have them pointed out for the good of the public.

Windham, Con. July, 1831.

1. *What effect has it on milk, in hot weather, if it is much agitated and heated in the udder, by the cow's being driven a long distance, or running about?*

It greatly injures the milk; it is very difficult to make it into cheese, and instead of one hour (the time very commonly given by dairy-women in bringing the cheese) it will frequently not come in 3, 4, or 5 hours, and then in an imperfect state; and when the cheese is released from the press it will heave or puff up.

2. *Which is the best method to keep milk sweet over night in warm weather?*

Set the milk in small brass, or tin vessels, and put one tablespoonful of fine salt to each gallon, and pour in some cold water according to the heat of the weather; let the milk stand where there is a free circulation of air. In the morning take off the cream and mix it *thoroughly* with the *warm* morning's milk.

3. *Which is the best method to preserve rennet skins?*

Let the calf suck about 11 hours before it is killed. Take out the maw-skin, and *let it lie three hours* in a cool place, then empty the maw, (let *no water touch* it,) and rub it well with salt on each side, and afterwards cover it with salt, and put it in a bowl; turn and rub it every day for about three days, then open it to dry, being stretched out on a stick, that it may dry regularly.

It is of great importance that the maw-skin be well prepared; good cheese cannot be made with bad rennet. It is reckoned best to be one year old before used; it will fetch more cheese, and it is said the cheese will be milder. To prepare the rennet, make 2 quarts of brine that will swim an egg; when the heat is gone off to about blood warm, put in one maw-skin cut in pieces, let it steep two days (48 hours) then strain and bottle it.

4. *What quantity of new cheese will one rennet skin produce?*

The average about 250 lbs. (some produce 600 lbs.)

5. *How many quarts of milk (milk measure) will produce curd for a cheese which will weigh 15 lbs. from the press?*

Forty-five to 60 quarts, according to the richness of the milk.

6. *What will a cheese which weighs 15 lbs. from the press shrink the first five months after it is made?*

Near three pounds. (A cheese which weighs 24 lbs. green, will shrink 4 lbs. in 5 months.

7. *What degree of the thermometer should be the heat of the milk when the rennet is put in?*

From 80 to 90, according to the heat of the weather, and the quantity of milk. (The smaller the quantity of milk, and the cooler the weather, the hotter should be the milk.)

8. *What is the effect if the milk is too hot when the rennet is put to it?*

The cheese will partake of the elastic or springing quality of a sponge. It leaves it in a very tough state. It inclines the cheese to heave and be strong. The whey will look green and then white; it spoils the cheese.

9. *What is the effect if the milk is too cold, when the rennet is put to it?*

It will hardly come at all, and it is not easy to separate the whey, and is in danger in warm weather of souring. The cheese is apt to cut chisselly and break and fly before the knife.

10. *How long time should be allowed after the rennet is put to the milk to cause it to turn to curd fit for the cheese knife?*

One hour in warm sultry southwesterly weather, and not less than one and a half hour in clear northwest weather.

(Cheese will come in warm weather quicker than in cool, with the same quantity of rennet, as it does not cool so quick. When the whey looks blue, the curd is fully formed and the whey may be *carefully* separated.)

11. *What is the effect if the curd is stirred, or broken too soon?*

The rennet will not take full effect. It will cause slip curd, which will never make good cheese. The cheese will be unsettled and ill flavored. The whey will be rich, and the cheese poor.

12. *What is the effect if too much rennet is put to the milk?*

The cheese will be rank, or very strong, and is liable to heave and spread.

13. *What is the effect if too little rennet is put to the milk?*

It works too slow, and is liable to become sour in warm weather.

14. *What kind of salt is best for cheese?*

The *very best* of Blown Liverpool salt.

Some prefer the best of Rock or Turks Island salt, washed and ground.

15. *What quantity of salt should be put to the curd which will make a cheese weighing 15 lbs. from the press?*

About six ounces. (If a cheese of 15 lbs. is salted when turned in the press, and afterward put in a brine 15 hours, 1 oz. of salt to the curd will be sufficient.)

16. *What is the effect if too much salt is put to the curd?*

The cheese will be hard, dry, poor, and warty.

17. *What is the effect if too little salt is put to the curd, or it is not well cured in brine?*

The cheese will taste strong, be liable to heave, spread and will not cure well.

18. *What is the effect if cheese is not sufficiently pressed?*

The cheese will crack, leak, mould and rot.

[Press the cheese gently at first, and advance gradually to the utmost power of the press. If cheese is not scalded right, and well mixed, we cannot by pressing make it firm. If cheese is pressed too much it is apt to be hard and poor.]

19. *Why does American cheese dry sooner than English when it is cut open?*

Whether it is because they mix a little saltpetre with the salt, or cure them in brine, without putting much salt to the curd, or it is caused by adding suet to the curd, I have no means of knowing.

20 *Can as good cheese be made upon a farm on the seaboard as in the interior?* (See N. E. Farmer, vol. ix. p. 326.)

No doubt, if the manufacturer has as much experience and skill. (Those living near large towns where *fresh butter* bears a high price, are strongly tempted to *skim the milk,* before it is made into cheese.)

GENERAL REMARKS ON CHEESE MAKING.

It is recommended to have the milk in the tub measured with a guaging rod, the salt weighed, the rennet measured, and the temperature of the milk when the rennet is added, determined by a thermometer; if there was less guessing about making cheese, there would be less poor cheese made.

Skimmed cheeses do not require so much scalding as new milk.

If curd for cheese is not well scalded the cheeses will look warty, spread and leak; scald the curd rather more than is generally practised, and then *cool it in cold water,* the whey will work out more readily. If cheese is put into the press warm, it is apt to puff up, and be strong.

Sour curd will not make good cheese, and sour milk should be given to the swine, cheese made of it would be hard, crack, leak, and be wrinkle coated.

Scalded milk makes rich cheese.

The practice of coloring cheese and butter, we think, should be discouraged; who would thank a milk man to color his milk?

As to cheese hoops for a middling size cheese, let the height be about two thirds of the diameter; for small cheese, let the height be about half the diameter.

Be careful that the room, where rich new cheese is kept in hot weather, be not too warm.

The whey may be let off when the curd is sufficiently formed by a plug at the bottom of the tub; placing something over the hole to keep the curd from stopping it.

Scientific Societies.—It is estimated that there are above 1500 learned and scientific societies in the world; above one half of which are occupied in the encouragement of agriculture, manufactures and commerce.

(From the New England Farmer.)

CHAMPAIGN CURRANT WINE.

Mr. Fessenden,—Agreeably to request, I have the pleasure to hand you the details of my process for making *currant wine.*

Ingredients for 30 gallons of wine.

Three bushels or 150 pounds of currants.

Seventy-five pounds of white Havanna or dry Brazil sugar.

Three pints of white French brandy, with sufficient pure soft water.

Gather the fruit in dry weather, when rather *under* than *over* ripe—mash them to break every berry, but not bruise the stems—add a portion of the water, and after stirring well, turn the mass on to a strainer over a *grain riddle* or *cheese basket,* rubbing and pressing gently with the hands;—by repeating the operation a few times, all the vinous and saccharine matter will be extracted, and much of the *pulp* kept back, which occasions not only too great a degree of fermentation, but diminishes the quantity of wine by the lees it forms—saving much trouble in comparison to the usual practice of squeezing and wringing through a strainer, by the fair hands of the willing females to whom the duty is commonly assigned—which not only forces through nearly all the pulp and many seeds, but extracts a *crude acid* from the stems, that is any thing but *vinous.* The sugar should be put into a tub or other open vessel with the brandy: and the liquor strained on to it. When the sugar is dissolved, strain the whole through a fine hair cloth or sieve into a strong sweet cask of thirty-two to thirty-four gallons, and fill up to within two to four gallons, which leaves sufficient room for the fermentation to proceed, and drive in the bung so that no air can enter or gas escape.

It is desirable that all parts of the process should go on at the same time, and be finished with all possible despatch—observing the same neatness as in a well managed dairy. The sooner the wine is bottled after it is perfectly fine, the more briskness it will exhibit. The maxim "the better the sugar, the better the wine," I have found by experience to be correct, and I am inclined to believe, that *double refined loaf sugar,* said to be an indispensable ingredient for the manufacture of Champaign in France, would produce a wine as much superior as to compensate for the extra expense. I believe three lbs. of sugar to a gallon is the common recipe—but no doubt brown *moist* sugar is in general use I consider two and a half lbs. of dry white amply sufficient (even dispensing with the brandy) for such fruit as I have cultivated. That for white wine or Champaign, not being very common, a description may not be amiss. It is called the Champaign currant, and is a good bearer, the fruit rather inclines to an oval, of an amber tint, and much sweeter, but not so large as the white Dutch. To its possessing a more vinous substance, particular attention to observe the process as above, and management of the plants, I attribute the superior quality of the liquor to any factitious wine I ever tasted. When preparing my vineyard at Brighton some twenty years since, I was careful to rub off all the buds of the cuttings that were put under ground, and six or eight inches above, which effectually prevents *suckers,* and affords a free circulation of air around the bottom. Three buds only were permitted to shoot, which the next season were shortened to four, and afterwards pruned so as to resemble a *tree* shaped like a *wine glass.* They were planted in rows four feet apart, and five feet from plant to plant, in quincunx order, that is, they stand *opposite* only in every other row, which give to each tree an atmosphere of about six feet,—when the fruit was filling the young shoots were topped four or six buds. By such management nearly all the force of vegetation is directed to the fruit—enriching and increasing the size so much, that I was often applied to by market gardeners for cuttings of my *red currants,* as a new and superior variety; and it was with difficulty I could convince them they were the same kind they cultivated. It should be kept in mind that plants treated in this manner will not last more than 20 years generally—though if permitted to send up suckers every year they may continue a century, but the superiority of the fruit will amply pay for the renewal.

The white currant wine, for which the Trustees of the Massachusetts Agricultural Society awarded me the first premium a few years ago, had remained in the cask I believe two years; showed no briskness, but was highly vinous and full sweet. The white wine I have made to imitate Champaign, has been drunk by competent judges *for very good imported* from France. I have made a very palatable *dinner* wine from the Champaign currant, that has been taken for Sauterne, a favorite French wine,—and from the red currant, wine, equal to that of late years introduced as *French Madeira,* such as we often find in hotels and steamboats with the term *French* sunk, and the Madeira *price* raised. In producing such wine, it is necessary to give air for a short time to increase the fermentation and deprive it of a great portion of the sweetness. When closing a communication much longer than you may perhaps wish, I must remark that it will be in vain to attempt the manufacture of wine upon a large scale, either from the grape or any other fruit, unless the operation is promoted with a deep cellar or vault where an equal and cool temperature can be preserved. With particular esteem, I remain very cordially yours,

Samuel W. Pomeroy.

Boston, 4th July, 1831.

CIDER.

It is a matter of wonder, why, with the exception of some part of New Jersey, and Duchess and Orange counties in New York, no part of the northern and middle states should have the reputation of making good cider. By good cider we mean that which will not become so sour as to be unfit to drink in two or three months after it is made. New England throughout, possesses a soil which produces every variety of apples in the greatest abundance, and yet we suspect that it will be found that very little cider, comparatively, finds its way from thence, either to the city of New York, or other places still farther south. At any rate, we hear of none from that quarter which is held in repute, like that from New Jersey. The public tables in New York are not supplied with good cider, except at a charge of 25 to 50 cents a bottle. As cider forms a very considerable article of export from our country, we take this opportunity to suggest, that establishments in the interior might, we doubt not, be made profitable by sending cider to the city, either bottled, or fit to be bottled, as an article of merchandize.—*N. Y. Statesman.*

[There is no better cider produced in any part of the world than in Baltimore. A hogshead of Baltimore cider was sent to the Hon. President of the Harvard University, by a friend in Baltimore a year or two ago, and was pronounced very superior by all who drank of it. It is far above what is called Newark cider.—*Ed. Amer. Farmer*]

HORSES SLOBBERING.

At this season of the year, when the weather is warm, and the earth moist, horses feeding in pastures are often salivated to that extent that it renders it very disagreeable being near them, and instead of gaining flesh they lose it very fast.—The cause of this salivation has been ascribed to their eating a plant which grows in moist ground, called *lobelia.* We conclude this is not the cause of this complaint, as we do not know of any animals but *quacks* who are fond of it. If this was the true cause of it, why do not horses slobber in dry cool weather, when the grasses are not growing as rapidly, or even in damp weather, when feeding in pastures newly stocked down with timothy grass. If a horse, which is troubled with this complaint, is turned into such pasturage, the complaint is soon stopped. The salivation is undoubtedly produced by eating white clover when it is very full of juice; and changing the food is the proper preventive. A baiting of hay or oats in common cases will answer, or in extreme ones change the pasture as mentioned before, and it will soon cease.

[It is said that a baiting of *parsely* is a certain remedy, and that if this plant is cultivated along the fences the animals will of themselves take a sufficient quantity to act as a preventive—all grazing animals being very fond of it.—*Ed. Amer. Farmer.*]

HOW TO PICKLE WALNUTS.

Scald slightly, and rub off the first skin of a hundred large walnuts, before they have a hard shell: this may easily be ascertained by trying them with a pin. Put them in a strong cold brine, put new brine the third and sixth days, and take them out and dry them on the ninth. Take an ounce each of long pepper, black pepper, ginger, and allspice; a quarter of an ounce of cloves, some blades of mace, and a table-spoonful of mustard seeds: bruise the whole together, put into a jar a layer of walnuts, strew them well over with the mixture, and proceed in the same manner till all are covered. Then boil three quarts of white wine vinegar, with sliced horse-radish and ginger, pour it hot over the walnuts, and cover close. Repeat the boiling of the vinegar and pour it hot over, three or four days, always keeping the pickle closely covered; add at the last boiling a few cloves of garlic, or shallots. In five months they will be fit for use.

WATCHING THE SWARMING OF BEES.

The hive is placed upon a weighing beam, about three feet eight inches long, with a board on the other end, on which are put stones, of the weight of the hive.

When the bees begin to cast, (an ordinary top swarm is between 4 lbs. and 5 lbs. weight,) and when the first pound's weight of bees have left the hive, the beam will turn back a little, the same way as a merchant's scale does on the counter: but before the scale rests it forces out a trigger like the pin of a mole trap, which lets off a small iron wire to a bell in the house, that gives sufficient warning to the bee-mother, to go and take care of the swarm. The above method has been practised several years by Mr. Duncan, gardener near Ayr.—*Glasgow Chronicle.*

MISCELLANEOUS.

POWER OF STEAM.

The annexed extracts are taken from a discourse by Judge Story, upon the progress of improvements effected by steam. The narrative of Fulton which he introduces, describes the eminent man's feelings on the first successful trial of his experiment.

It was in reference to the astonishing impulse thus given to mechanical pursuits, that Dr. Darwin, more than forty years ago, broke out in strains equally remarkable for their poetical enthusiasm, and prophetic truth, and predicted the future triumph of the steam engine.

> "Soon shall thy arm, unconquered steam, afar
> Drag the slow barge, or drive the rapid car;
> Or on wide, waving wings expanded bear
> The flying chariot through the fields of air:—
> Fair crew triumphant, leaning from above,
> Shall wave their fluttering kerchiefs as they move,
> Or warrior bands alarm the gaping crowd,
> And armies shrink beneath the shadowy cloud."

What would he have said, if he had but lived to witness the immortal invention of Fulton, which seems almost to move in the air, and to fly on the wings of the wind?—And yet how slowly did this enterprize obtain the public favor. I myself have heard the illustrious inventor relate, in an animated and affecting manner, the history of his labours and discouragements. When, said he, I was building my first steamboat at New York, the project was viewed by the public either with indifference, or with contempt, as a visionary scheme. My friends, indeed, were civil, but they were shy. They listened with patience to my explanations, but with a settled cast of incredulity on their countenances. I felt the full force of the lamentation of the poet,

> "Truths would you teach to save a sinking land,
> All shun, none aid you, and few understand."

As I had occasion to pass daily to and from the building yard, while my boat was in progress, I have often loitered, unknown, near the idle groups of strangers, gathering in little circles, and heard various inquiries as to the object of this new vehicle. The language was uniformly that of scorn, or sneer, or ridicule. The loud laugh often rose at my expense; the dry jest, the wise calculation of losses and expenditures; the dull but endless reputation of the Fulton Folly. Never did a single encouraging remark, a bright hope, or a warm wish, cross my path. Silence itself was but politeness, veiling its doubts, or hiding its reproaches. At length the day arrived when the experiment was to be put into operation. I invited many friends to go on board to witness the first successful trip. Many of them did me the favor to attend, as a matter of personal respect; but it was manifest, that they did it with reluctance, fearing to be the partners of my mortification, and not of my triumph. I was well aware, that in any case there were many reasons to doubt of my success. The machinery was new and ill-made; many parts of it were constructed by mechanics unaccustomed to such work; and unexpected difficulties might reasonably be presumed to present themselves from other causes. The moment arrived, in which the word was to be given for the vessel to move. My friends were in groups on the deck. There was anxiety mixed with fear among them. They were silent, sad, and weary. I read in their looks nothing but disaster, and almost repented of my efforts. The signal was given, and the boat moved on a short distance, and then stopped, and became immoveable. To the silence of the preceding moment now succeeded murmurs of discontent, and agitations, and whispers and shrugs I could hear distinctly repeated, "I told you it would be so, it is a foolish scheme, I wish we were all out of it." I elevated myself upon a platform, and addressed the assembly. I stated, that I knew not what was the matter; but if they would be quiet, and indulge me for a half hour, I would either go on, or abandon the voyage for that time. This short respite was conceded without objection. I went below, examined the machinery, and discovered that the cause was a slight mal-adjustment of some of the work. In a short period it was obviated. The boat was again put in motion. She continued to move on. All were still incredulous. None seemed willing to trust the evidence of their own senses. We left the fair city of New York; we passed through the romantic and ever varying scenery of the highlands; we descried the clustering houses of Albany; we reached its shores; and then, even then, when all seemed achieved, I was the victim of disappointment. Imagination superseded the influence of fact. It was then doubted, if it could be done again; or if done, it was doubted if it could be made of any great value.

Such was the history of the first experiment, as it fell not in the very language which I have used, but in its substance, from the lips of the inventor. He did not live indeed to enjoy the full glory of his invention. It is mournful to say that attempts were made to rob him in the first place of the merits of his invention, and next of its fruits. He fell a victim to his efforts to sustain both. When already his invention had covered the waters of the Hudson, he seemed little satisfied with the results, and looked forward to far more extensive operations. My ultimate triumph, he used to say, my ultimate triumph will be on the Mississippi. I know, indeed, that even now it is deemed impossible by many, that the difficulties of its navigation can be overcome. But I am confident of success. I may not live to see it; but the Mississippi will yet be covered by steamboats; and thus an entire change be wrought in the course of the internal navigation and commerce of our country.

And it has been wrought. And the steamboat, looking to its effects upon commerce and navigation, to the combined influences of facilities of travelling and facilities of trade, of rapid circulation of news, and still more rapid circulation of pleasures and products, seems destined to be numbered among the noblest benefactions to the human race.

I have passed aside from my principal purpose to give in this history of the steamboat, a slight illustration of the slow progress of inventions. It may not be unacceptable, as a tribute to the memory of a man, who united in himself a great love of science with an unextinguishable desire to render it subservient to the practical business of life.

How abundantly has the prophetic vision of Fulton been realized, that "his triumph was to be on the Mississippi!" how grievous to think that, while its waters are covered with steamboats which his genius set in motion, his family has not, in these United States, a home they can call their own."

The subjoined remarks, on the same subject, were made by DANIEL WEBSTER:—

"In comparison with the past, what centuries of improvement has this single agent comprised, in the short compass of fifty years! Every where practicable, every where efficient, it has an arm a thousand times stronger than that of Hercules, and to which human ingenuity is capable of fitting a thousand times as many hands as belonged to Briareus. Steam is found, in triumphant operation, on the seas, and under the influence of its strong propulsion, the gallant ship

"Against the wind, against the tide,
Still *steadies*, with upright keel!"

It is on the river, and the boatmen may repose on his oars; it is in highways, and begins to exert itself along the courses of land conveyance; it is at the bottom of mines, a thousand feet below the earth's surface; it is in the mill, and in the workshops of traders. It rows, it pumps, it excavates, it carries, it draws, it lifts, it hammers, it spins, it weaves, it prints. It seems to say to men, at least to the class of artizans, "leave off your manual labor, give over your bodily toil; bestow but your skill and reason to the directing of my power, and I will bear the toil,—with no muscle to grow weary, no nerve to relax, no breast to feel faintness."

LANCASTER COUNTY, Pa.—According to a statement recently published, this flourishing and wealthy county contains at this time, seven furnaces, fourteen forges, one hundred and eighty-three distilleries, forty-five tanyards, twenty-two fulling mills, one hundred and sixty-four grist mills, eighty-seven saw mills, nine breweries, eight hemp mills, five oil mills, five clover mills, three factories, three potteries, six carding machines, three paper mills, two snuff mills, seven tilt hammers, and six rolling mills.

It is with regret we learn that the late freshet in our river has done serious injury to the growing crops, mills, dams, bridges, &c. in Frankstown settlement. Whole fields of fine wheat, and meadows, have been entirely destroyed. The horse bridge, at Alexandria, which resisted the ice flood of last spring, was entirely carried off.—*Huntingdon, Pa. Gazette.*

THE FARMER.

BALTIMORE, FRIDAY, JULY 29, 1831.

NEW BEANS.—Among the new vegetables now under cultivation in the garden of the editor of the American Farmer, there are two varieties of beans well worthy of being introduced into every kitchen garden.—One variety, which we at present call the *Yellott Asparagus Bean*, has a large fleshy pod from 6 to 9 inches in length, very tender and rich. It is a pole bean, excellent bearer, and nearly as early as the common bush bean. The other is the London Horticultural Bean—resembling very closely in flavor the pole cranberry bean, but a much better bearer in this climate, and as early as the yellott bean. These two varieties are decidedly superior to any we have heretofore cultivated, both for productiveness and quality. They are both much the best when the pods and beans are full grown, especially the Yellott, which we prefer when the pods begin to assume a yellow tinge.

There is an objection generally urged against pole beans, on account of the trouble of providing poles; but when it is considered that a dozen hills of pole beans will produce more than four dozen hills of dwarf or bush beans, and that one sett of poles will last several years if taken care of, we think this objection will be found to be groundless. Pole beans are decidedly preferable to bush beans when there is a scarcity of ground.

ORCHARD GRASS, &c.—The season for seeding orchard grass, tall meadow oat grass, &c. is fast approaching, and we have thought that the following hints might be acceptable to those intending to cultivate these grasses. Many persons have failed in producing orchard grass after much trouble in obtaining seed and preparing their ground, and generally the fault is attributed to the seed. This may sometimes be just; but we apprehend the cause of failure may as often be attributed to the manner of putting the seed in the ground as to the seed. It is a very light chaffy seed, or rather an extremely minute seed, closely surrounded by a large chaffy husk; and therefore, if buried too deep, liable to rot in the ground; or, if two shallow, to remain dry on the surface. In a conversation with Mr. Robert Sinclair on this subject, he suggested that it would be well, in sowing orchard grass, to adopt the English practice in preparing the seed, which is to spread out the seed four or five inches deep on a floor, and sprinkle it with water, stirring it occasionally for 24 hours, so as to dampen it thoroughly before sowing it. This makes the seed heavier, and it consequently falls into the crevices of the earth better, and is not so liable to be blown about by wind before it is covered by the harrow. It also vegetates sooner and better. We also think that the common harrow is too coarse an implement for any grass seed; it is apt to bury much of it entirely too deep, and at the same time to leave some on the surface not covered at all. We have seen at the north a saplin thickly set with small branches and twigs used instead of a harrow; but think that a harrow with double the usual number of teeth, but these of only half the common size, would be much the best implement. This would require the ground to be well prepared of course, but that ought to be done under all circumstances. The tall meadow oat grass is gaining rapidly in public favor, and will doubtless be generally adopted. It is peculiar for its very early and very late and abundant supply of pasture, and is considered the best grass to sow with lucern, 12 to 16 pounds of the latter to a bushel of the former being the usual quantity to an acre.

☞ The attention of persons wishing to purchase an excellent farm, is directed to the advertisement of Mrs. Griffith, offering "*Charlies Hope*" for sale. To a young beginner in agricultural life, this farm offers an opportunity very seldom to be met with, as it has been conducted upon the most approved principles by its scientific and accomplished proprietor, without the most distant view of ever quitting it; and consequently vast expenditures have been made upon its improvement. The horticultural department of Charlies Hope is probably surpassed by few if any private farms in this country, as will appear by the following items: There are upwards of 200 bearing trees of the seckel pear, besides 400 to 500 of other valuable varieties; large orchards of peaches, cherries, apricots, nectarines, plums, &c. In the ornamental shrubbery there are upwards of 1500 bushes of one kind of roses, such as the ottar of roses is made of, being monthly. The dwelling is of the modern style, and sufficiently commodious, with every description of necessary out houses. Indeed there is nothing for the purchaser to do but to go to work. We really think this an opportunity for persons wishing to purchase worthy of attention.

We saw yesterday, a man leading up Walnut street, a bull of the short horned breed, of most admirable dimensions, and beautiful symmetry. We understood that it was one purchased by Mr. POWEL, and brought home in the Monongahela.—*U. S. Gaz.*

Reading, Penn. July 16.

OUR HARVEST.—Notwithstanding the fears entertained by our farmers for the preservation of the crops, in consequence of continuous and almost unprecedented rains, we are happy to state, upon authority derived from almost every section of the county, that very little grain has been injured; and that although the harvest has not been quite as prolific as was anticipated in the early part of the season, there is no serious cause of complaint.

PRICE OF N. CAROLINA TOBACCO IN RICHMOND.

The following communication appears in the last N. C. Oxford *Examiner*. A purchaser of this description will be the means of raising the character of our market, and inviting more of the N. Carolina tobacco to Richmond.—*Richmond Compiler.*

If you think it would be any encouragement to tobacco growers, you may state in your paper, the sale of a hhd. of tobacco, made in this county by Allen Willams, which was sold in Richmond, Va. the 23rd ult. for $21 75 per. 100 lbs. The tobacco was very fine, and sold privately to a manufacturer,—it weighed 1473 and brought $320 37. I think Granville cannot be beaten by the State.

FOREIGN MARKETS.

LIVERPOOL COTTON MARKET, *Monday. June* 6, 1831.

The demands for cotton throughout the week was steady, and prices have been fully supported. The transactions comprise 120 Sea Islands at 11d to 17¼d, with 60 Strained at 6d to 10d; 3,460 Bowed, 5 1-8d to 6½d: 2,220 Orleans, 5d to 7½d, with 20 at 8d; 2,220 Alabama and Mobile, 5d to 6½d, with other descriptions, making together 12,000 bags, of which 400 Brazil, 350 East India, and 400 American are for shipment. The market has been very firm today, and upwards of 4,000 bags sold; on Saturday the sales were about 2,000.

LIVERPOOL CORN EXCHANGE, *June* 7.

The imports up to Saturday, were to a very limited amount; a number of cargoes of foreign and Irish wheat, previously detained by adverse winds, have since arrived, which makes the supply of the week tolerably extensive. Last Tuesday's prices for wheat have been very fully sustained throughout the week, and a small improvement realized on flour, with considerable firmness on the part of holders; but the sales have not been extensive in either article. A few parcels of American red wheat have been taken on speculation at 9s 6d to 9s 8d, and our millers purchase with more confidence of the better qualities of Irish about 8s 9d a 9s. There is now little flour offering under 34s, and the choicest brands have brought in retail 38s per barrel. The continued dry weather has caused more business in spring corn. Oats further improved in value. Barley has been in request at 3s 10d to 4s 4d; and some quantity of (foreign and fresh) at the latter price. Indian corn has also met a speculative demand at about 34s, at which some large parcels have been sold; there are now few sellers under 36s to 38s per 480 lbs. Some quantity of this article, together with several hundred loads of oatmeal. have been purchased for shipment to Ireland, the latter at an advance of 1s to 1s 6d per load. The duty on foreign wheat remains the same as before, but a considerable increase must take place next Tuesday; the only variation the last week is an increase on peas 1s 6d per quarter.

Rather higher prices were demanded this morning for both wheat and flour, and for superior qualities of the former article 1d to 2d advance was in some instances realized; the business of the day, was, however, light.

London Corn Exchange, *June* 6.

The English supplies of grain last week were small, of foreign wheat there was a fair quantity, and a few vessels of foreign oats. This morning the fresh quantities of all sorts of corn are small, fine samples of wheat readily obtained last week's prices; all other descriptions experienced a dull sale throughout the market. There is rather more demand for flour than of late, and ship samples are a little dearer.

Liverpool, *June* 8.

Our corn market yesterday, was not brisk, but prices of both wheat and flour were fully maintained; we presume our quotations of the 1st inst. namely 33s 6d a 36s 6d per barrel for flour; and Indian corn, 34s a 36s per 480 lbs. No change in the duty since our last.

Prices Current in New York, July 23.

Beeswax, yellow 19 a 20. *Cotton*, New Orleans .10 a .12; Upland, .8½ a .10½; Alabama, .8 a 11½. *Cotton Bagging*, Hemp, yd. 15 a 20; Flax 13 a 14½; *Flax*, American, 7 a 8.——*Flaxseed*. 7 bush. clean .—— a .—— *Flour*, N. York, bbl. 4.75 a 5.00; Canal, 5.00 a 5.50; Balt. Hwd.st. 5.25 a 5.37; Rh'd. city mills —— a —— country, 4.75 a 5.00; Alexand'a. 4.75 a 5.12; Fredericksburg 4.62 a ——; Petersg. 4.62 a 4.75; Rye Flour, 3.50 a 3.62; Indian Meal. per bbl. 3.37 a 3.50; per hhd. 17.00 a 17.25; *Grain*, Wheat, North, 1.00 a 1.06; Vir. 1.00 a 1.03; Rye, North, 72 a 73; Corn, Yel. Nor. 65 a 68; Barley. — a —; Oats, South and North, .32 a .36; Peas, white, dry, 7 bu. 5. Beans, 7 bu. 7.00 a 8.00. *Provisions*, Beef, mess 8.50 a 9 00; prime 5.50 a 5.75; cargo 4.62½ a 5.00; Lard .9½ a .11; Pork, mess, bbl. 14.00 a 14.75; prime 10.00 a 11.25.

AGRICULTURAL BOOKS,

For sale at this Office.

THE AMERICAN ORCHARDIST; or a Practical Treatise on the Culture and Management of Apple and other Fruit Trees, with observations on the diseases to which they are liable, and their remedies. To which is added the most approved method of Manufacturing and Preserving Cider. Compiled from the latest and most approved authorities, and adapted to the use of American Farmers. By James Thacher, M. D. Fellow of the American Academy of Arts, and Sciences, and of the Massachusetts Medical Society, &c. &c.—Price $1.50.

A PRACTICAL TREATISE ON THE MANAGEMENT OF BEES; and the establishment of apiaries, with the best method of destroying and preventing the depredations of the Bee Moth. By James Thacher, M. D. Fellow of the American Academy of Arts and Sciences, &c. &c.—Price 75 Cents.

OUR NEIGHBOURHOOD, or Letters on Horticulture and Natural Phenomena: interspersed with opinions on Domestic and Moral Economy.—New York, 1831.—Price $1.00

FOR SALE

The FARM called CHARLIESHOPE, situated on the bank of the Raritan, two miles from New Brunswick, on the Easton Turnpike.

There are one hundred and thirty-five acres of land, well watered, having a fine spring in the rear of the farm, besides two wells, two large cisterns, and a bored well, called an overflowing well, which communicates with the house by tubes.

There are several thousand grafted Fruit Trees, an acre of Strawberries of the rarest kinds, several hundred Gooseberry and Currant Bushes, a Grape Walk eight hundred feet in length, with a trellis on each side, covered with imported Grapes, besides two small Vineyards.

There is an extensive Asparagus Bed, and a profusion of rare and beautiful Shrubbery and Bulbous Roots, and upwards of two thousand feet of Box Edging.

There are a number of out houses, besides an Ice House, a Bee House, and a Green House. Also, a young Nursery of grafted Fruit Trees, to be sold either separately or with the Farm.

The Delaware and Raritan Canal is to run on the bank of the river in front of the farm.

Applicants must direct their letters—post paid—to Mrs. Griffith, Charlieshope, New Brunswick, New Jersey.

COCOONS WANTED.

The subscriber is authorised to purchase good cocoons, for a gentleman who is about commencing a silk filature, and will give from 30 to 50 cents a pound for them according to quality. Double and imperfect cocoons should be picked out, as they will depreciate the value of the parcel materially. The cocoons should also be packed in barrels or boxes or otherwise carefully secured from pressure, for if they are *jammed* will be unfit for use. Persons in Virginia having cocoons for sale will find a market for them at the factory at Occaquan Mills, Prince William county, Va.

GIDEON B. SMITH.

J. S. EASTMAN,

No. 36, West Pratt Street,

OFFERS, at *Wholesale and Retail*, Hay and Manure FORKS, and Scythe SNEADS.—Also for sale, Grain CRADLES, and Cradle SCYTHES, Grass SCYTHE, English and American, with and without Sneads, Wheat FANS. Scythe STONES, &c. &c. Together with his usual assortment of PLOUGHS, and other AGRICULTURAL IMPLEMENTS, Garden Seeds, &c.

A fresh supply of FLOWER SEEDS, just received from the Messrs. Landreth's.

June 3.

WOOL WAREHOUSE.

LYMAN REED,

Commission Merchant, No. 195 *Baltimore street,*

Devotes particular attention to the sale of WOOL. Any consignments of the article forwarded to him for sale, can be disposed of immediately for CASH, at the highest market price.

CASH, and a fair price, will be paid for a few thousand pounds of *good wool*, (if offered immediately,) to supply orders now on hand.

Refer to Messrs. Cobb, Wyman & Co. Baltimore.

FRESH TURNIP SEED.

450 lbs. of white flat TURNIP SEED of the present year's growth, raised by the subscribers, and warranted first quality, also for sale Swedish or Ruta Baga seed, and will be received in a few days some genuine Yellow Bullock Turnip seed.

SINCLAIR & MOORE,
July 22. Near Pratt Street Wharf.

CASH FOR WOOL.

The subscriber is in this market as a purchaser of wool for eastern manufacturers, and will pay cash and fair market prices for every description of American wool.

RICH'D MESSITER,
No. 5 Light street wharf, up stairs.
May 20. 2 m.

BALTIMORE PRICES CURRENT.

Baltimore Market.—In consequence of the small supplies, there has been a trifling advance in the prices of flour; the wagon price of Howard street yesterday was $5.12½. The supplies of new wheat are yet very small, and there has been a few sales made of superior red at $1.03. The wool market is in an unsettled state and our quotations must be considered nominal. It is expected that good wool would command our rates or nearly so, but there is at present very little coming in, and we find it impossible to quote from absolute transactions.

Tobacco.—Seconds, as in quality, 3.00 a 5.00; do ground leaf, 5.00 a 9.00.—Crop, common, 3.50 a 4.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 10 00; yellow and red, 8.00 a 14.00; yellow, 14 00 a 16.00.—Fine yellow, 16.00 a 20.00.—Virginia, 4.00 a 5.00.—Rappahannock, 3.00 a 4.00——Kentucky, 3.50 a 8.00. The inspections of the week comprise 463 hhds. Md.; 83 hhds. Ohio; 10 hhds. Penn. 2 hhds. Vir;—total 558 hhds.

Flour—best white wheat family, $6 00 *a* 6.50—super. Howard-st. fresh $5.25; city mills, fresh. 5 25 Susq.—— *a* ——; Corn Meal, bbl. 2.25; Grain, Md. red wheat, 90 *a* 1.05; white do. 1.05 *a* 1.15, Susq. 1.05 *a* 1.09—Corn, white, 63 *a* 65—yellow 63 *a* — Rye, 60 *a* 61. Oats, .33 *a* 34. Beans, 75 *a* 80—Peas, 65 *a* 70—Cloverseed —— *a* ——Timothy, 2.00 *a* 2.50—Orchard Grass —— *a* ——Tall Meadow Oat Grass 2.75—Herd's, 50 *a* 75—Lucerne 30 *a* 37½ lb.——Barley, ——Flaxseed —— *a* ——Cotton, Va. 9 *a* 9½—Louisiana 10¾ *a* 11½—Alab. 9½ *a*. 11—Tenn.. 9 *a*. 10——N. Car.. 9 *a*. 9½—Upland 8 *a* 9½—Whiskey, hhds. 1st p. — *a* 33—; in bbls 34½ *a* 36——Wool, *Washed*, Prime or Saxony Fleece 60 *a* 67; American Full Blood, 56 *a* 60; three quarters do. 52 *a* 56; half do. 47 *a* 52; quarter and common do. 42 *a* 47. *Unwashed*, Prime or Saxony Fleece, 40 *a* 43; American Full Blood, 37 *a* 40; three quarters do. 35 *a* 37; half do. 33 *a* 35; quarter and common, 30 *a* 33——Hemp Russia ton, $255 *a* ——; Country, dew-rotted. 6 *a* 7c. lb. water-rotted, 7 *a* 9c.——Feathers, 35 *a* 36; Plaster Paris per ton, —— *a* 4.00, ground, 1.37½ *a* — bbl. Iron, gray pig for foundries per ton 33.00 *a* ——; high pig for forges, per ton, 28.00 *a* 30.00; bar Sus. per ton, 72.50 a 80.00.—Prime Beef on the hoof, 5.00 *a* 5.25—Oak wood, 3.00 *a* 3.25—Hickory, 4.25 *a* 4.50—Pine 2.00 *a* 2.25.

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AGRICULTURE.

THE FELLENBERG SYSTEM.

Mr Smith: *White Post, July* 30, 1831.

Sir,—I congratulate you on having made so serious a commencement in some of your latter Nos. with the discussion of the subject of agricultural education; particularly that admirable system the Fellenberg. A respectable disciple of this great benefactor of mankind, this learned and practical advocate of agricultural education, has visited our shores, lectured our citizens, and established himself in Pennsylvania, under the patronage of one of the devoted friends of the system; there to demonstrate the all important connection of agriculture and education, to the general prosperity of the former, and much better citizen-ship of so large a portion of our population, shall we fail to profit by his superior intelligence in the art of agricultural education?

His principles are entirely consistent with our views of the moral and religious government of youth—his sentiments and opinions, liberal and enlightened; altogether worthy, of the exalted reputation of his teacher (although in the heart of Europe.) Emanuel Fellenberg, displays in his character both the Christian and republican not the mere sectarian—not a spice of bigotry has he, religion is always placed on its pure and broad principles—one of the practical evidences of which is, that he has a division of 40 or 50 poor youths under continual instruction (gratis) and so much of a republican is he, that experiments have been made under his direction to test the extent to which self government may be carried amongst collections of youth, and failed—not that he anticipated a different result being deeply read in human nature, and a republican not merely in simplicity, but governed by the rules of wisdom, experience, and discretion. In our soil, we take it for granted that a good christian must be a republican, but we are not disposed to combat the belief that they live under all forms of government. But to return to the worthy disciple of Fellenberg. It would be a most agreeable task, if leisure and some other equally important qualifications would permit a commentary on the valuable essays of this gentleman—a mere abstract however, exceedingly brief, will be attempted, hoping it will find its way into our public journals where the length of the essays may preclude their appearance, however, certain it is, they merit a place in every shape and form. Mr. Ismar in traversing our widely extended country has been much gratified to discover a disposition amongst its inhabitants to encourage useful systems of education, but much ignorance (no doubt) on the practical means of carrying such systems into effect. "There is much to do for education; although there is, at the same time, a general wish to attain that object," are his own words; his denunciation of the new fangled, new harmony school is worthy of notice, the subject has no doubt been judiciously handled in his pamphlet—but the discrimination which is made between instruction and education is worthy the enlarged contemplation of all our teachers, and should be duly appreciated by every reflecting person.

"The object of education is to form the character and rectify the heart; to expand the intellect; to give force and dexterity to the body; strength and fortitude to the mind. Instruction directs itself more immediately to the memory. We can instruct the memory with things upon which intelligence can exercise itself, and intelligence exercised under the dominion of reason, influences the heart and character." It was on these principles with reference to the above distinction, that Fellenberg founded a system of practical instruction, composed of nine establishments. 1st. The Model farm, where you see a sample of agriculture in the highest degree of perfection, with the principles of the art carried into practice by the aid of science. The implements of husbandry here used are so much improved and adapted to the local situation, as greatly to reduce the number of animals required to cultivate the soil; that, together with other improvements in the general system laid the foundation of that happy change which Switzerland has undergone in no longer paying a tribute in the importation of foreign grains. 2d. The Experimental farm, where portions of soil, are devoted according to its suitableness, to a course of experiments. When experience has sufficiently proved the usefulness of a new practice, it is introduced in the Model farm and employed as a regular means. "There are very good practical agriculturists who never come to rational agriculture. Men of distinguished talent and judgment unite not with it the positive spirit which can appreciate the true causes and details of execution. The union of talents and qualities, which constitute the great agriculturist is very rare, because at the time of Mr. Fellenberg there was, in no country, an agricultural education in its true sense, and this education will never completely succeed, if it guides not to the point where the head despises not the hand, nor the hand disdains the head." A third establishment is a workshop for the manufacture of rural instruments—and connected with it a workshop for the perfecting of rural mechanics. These establishments have proved the useful talents of their patron by disseminating improved implements for the benefit of Swiss agriculture—need they stop here—for Fellenberg procures implements from all quarters to adopt, amend, or modify, to suit with more precision his own cultivation—let others attempt still further improvements on his, &c. &c.

The remaining establishments relate more particularly to education—beginning with the school of industry for poor boys. Fellenberg has infused the following sentiments into his pupil. "The new generation must have a new education, and men are far from feeling how it must be, if they are not persuaded that education should not be limited by instruction. Education ought to modify the two classes, which are the extremities of the social chain. Not to level society but to make it happy, we must not propose to mingle these two classes, and less to confound them; but to appropriate them separately to their respective positions, and to prepare the means to be satisfied with this position. The government ought therefore to have the same solicitude for the higher and the poorer classes of society who will have no other resemblance than in the application of the conservative principle equal to all, to uphold in the mind the justness, as well as the best religious and moral affections. The poor will acquire wealth and love of virtue by directing his hands to labour, and ennobling his mind and heart. It is necessary to bring in harmony his reason with his needs, to facilitate by a forward exercise the success of labours, which, at the same time, ought to ensure his subsistence, and to produce his intellectual advancement. Mr. Fellenberg will therefore make of the poor virtuous and enlightened agriculturists.

"Education in this establishment of the poor, is directed in its general intention, to raise up the children in their proper condition, not to draw them out of it. But if in one or the other of the pupils, there were discovered the germs of higher talents, Mr. F. considered it always as a duty to bring him at his cost into the establishment, for the higher classes of society. If we desire that nothing of what nature gives with so prudent a parsimony, be lost to social utility, society ought to seize the man of the inferior classes with superior talents, and reserve him to the higher place due to him. Without this foresight this individual would be misplaced in the situation in which he is confined, whilst the place itself, destined for him by his moral superiority, would be vacant. Let society be convinced of the justness of this principle, and the times of incapacity and egotism, the golden age of the minions in high places will be over." The school of industry is under the special teaching of a gentleman of the name of Wehrly, the success of which corresponds with the principles he professes to feel for the interest of poor boys.

There is a school also for poor girls. "Here Mr. F. has shewn how the poor girls can be withdrawn from a state of misery and want, more dangerous for this part of the human species than for the other. She will return to society adorned with all the virtues requisite for a good wife and mother; provided with all the useful knowledge and previous talents which constitute good housekeepers." Query—and on this last word housekeepers, I would make an emphatic appeal to all persons engaged in establishments of female education, whether their institutions may not be made vastly more valuable by the introduction of another department, namely, that of a professor of the laundry, kitchen, &c. to be made so respectable in the union of intelligence and a perfect system of order and neatness as to be interesting at once to all young ladies, and especially important to those who may in after life have the charge of families. Therefore instruct young ladies, be their expectations ever so great in life, in a routine of domestic management—let them descend into the cellar, kitchen, &c.—alternately to receive that kind of instruction which is indispensable in a well ordered family—the greater wealth and more extensive concerns require better disciplined, and well ordered talents. I once visited a lady whose family, birth, place in society, education, and accomplishments, fitted her to act an honorable part in the highest stations—her friends are charmed in her conversation, delighted with the exquisite sounds of her music, and edified with the explanations in the library and picture gallery. All this, is most gratifying to a man of taste and information, but what husband, especially a farmer, could be satisfied with this alone. The character then of this lady is consumated in her love and attention to her children, and in a knowledge and punctual performance of all her domestic concerns; the fullest evidence of which, is first seen in her kitchen (where in our southern country, there is a deplorable want of cleanliness,) but it is said, what will not poison, will fatten—in this apartment a table might be spread and a comfortable meal made by the most squeamish appetite. The cellar then and closets in their various apartments open to our view on their well stored shelves their numberless comforts, necessaries, and delicacies for the annual supply, and give frequent, and generous evidence of the skill of the hand that made them, not merely to those who could give in return, but to the poor and sick, of the neighborhood. Next the garret exhibited liberal and varied evidence that the exterior of her domestics was well protected against the inclemency of seasons by manufactures of wool and flax, &c. &c. Making good, one of the sentiments of holy writ, "she seeketh wool, and flax, and worketh willingly with her hands." Curiosity perhaps may be on tiptoe to know who this lady may be, or as Cotton Mather would have termed her—Laldy, meaning a doer of good—but it cannot be gratified, further than to say, she is a connexion of the first of heroes and of men, and learned system, method and management, in the family of him whose peculiar talents, and arrangements, made room for all the little minutia which was finally formed into a great plan, eventuating, in the redemption of a western world, as a foundation for the liberty and happiness of the human race.

Mr. Ismar concludes his remarks on this division of the subject as follows. "Whoever, has studied the history of nations as a philosopher will have learned to appreciate the influence that the education of women and their condition in life have always had on the destinies of the human species; whoever has reflected on the incidental circumstances of childhood, upon maternal tenderness, and the power of the first impressions, cannot disown, that good mothers alone educate good children. Cornelia, the mother of the Gracchi, was such a woman: but we find, likewise, that she was and would be nothing else but a patriotic woman—not an aspirant to half manhood.

The seventh establishment of Hofwyl, is the institution for the higher classes of society.

The plans and conceptions communicated in this chapter, are to be of infinite moment to mankind carried out into practice. Mr. Fellenberg takes nature as it is, rather than as it should be, in order to improve it—he connects the present with the future, with the most discreet eye to social order, combines every change with the most rational prospects of happiness instead of oppression.

"If we are but a little reasonable and true, we cannot confound with those disastrous revolutions the insensible changes in every state, the product of time, progress of human spirit, subdivision of old and creation of new properties; of the successive alteration, of all relations of the increasing propagation of knowledge—in one word, the effects of the influence of new discoveries, of the various motions of commerce, and the changing of the old relations among nations and governments. Scarcely do we find people with so enlarged a foresight and penetration, that they could discover the means of preventing and arresting violent revolutions, or direct the necessary changes in order to improve society."

The stormy times of Europe suggested to Mr. Fellenberg, the necessity of uniting the interests of society by teaching each class thereof, its proper place, inspiring them at the same time, with a love and respect for each other, and it is related, that the following occurrence had the effect of fixing his mind more firmly on the meditated schemes of reform. In the year 1798 or 99, he happened to be at Paris as one of the commission sent by the Provisional government, established in Switzerland after the French invasion; and in that capacity, he had an official conversation with the director Reubel, at his country house near Paris,—in the course of which he laid before him, in glowing colours, a picture of the miserable state to which his country was reduced, and might soon lead to a Vendean war, destructive to both parties. The Director appeared for some time to listen with profound attention, and Mr. De Fellenberg ascribed his silence to conviction of the truths he urged, and something like a feeling of compunction,—when all at once, the worthy republican throwing open a window, called aloud to one of his servants—"Jacques! apportes moi Finette!" A little spaniel was brought accordingly with its litter of young ones in a basket—and there was no chance of his hearing another word about Switzerland or liberty! After this rebuff, he gave up the idea of serving his country as a politician; and asking for his passport the next day, made the best of his way home, determined to set about the slow work of elementary reformation, by a better mode of education, and to persevere in it for the rest of his life.

Mr. Fellenberg has now been more than thirty years assiduously engaged in combining the best literary education, with laborious habits in agriculture and mechanical operations, and from the success of his well devised and original system, has abundant reason to thank God, when he recollects the ungracious and contemptuous treatment of the Frenchman, disappointments and rebuffs, are often blessings in disguise—if the plans of providence are mysterious to man, they are nevertheless, always wise; and fortunate is he, who makes the discovery in good time.

Mr. Ismar continues: "I have often heard the question, whether public or private instruction is the best? Both have their peculiar advantages and inconveniences. That is consistent with the nature of things; and it is idle to compare what cannot be compared. It would be afflicting to be obliged to choose amongst such different means, with the certainty of sacrificing advantages in every choice. Mr. Fellenburg sought to resolve this problem in a very different way,—he has united public and domestic education—he sees his pupils in every moment; they are his children. The pupils at Hofwyl are happy. See them in their labors, meals, and pastimes, and you will be convinced of this. A healthy and abundant diet, but absolutely no delicacies, and much exercise, are the hygina of this establishment. Every pupil cultivates his little garden; a more extended ground is their common property, and they have formed; in order to cultivate it together, a little association that has its rules and obligations. Every pupil learns, likewise, a mechanical art at his choice, and the numerous workshops offer the necessary means. According to the rules established by Mr. Fellenberg with the parents of the pupils, the greatest part were not dismissed before the age of eighteen years; they make one step from the institution into the world. It was, therefore, convenient to prepare them for it.—In this respect an interior constitution exists, which plan is very ingenious, whilst it is very simple. This represents to them to a certain extent, the great society, a part of which they will become, and accustoms them to form their own opinions, to consult them before they act in consequence, to explain and to defend it, to discuss, to care, to pursue a common interest, and an economical administration. This constitution connects them with another, and allows them to know each others character and inclinations. A knowledge by which they act reciprocally, as instruments of the common education. The last period has proved in Europe, that spirit alone, independent of character, is very little and impotent in great circumstances. The scarcity of energetic and grave men, gave reason to think, that the preceding education was not calculated nor able to favor the upholding many true men in the noblest sense of the word; men stronger by the greatness of their character, than eminent by the qualities of their spirit. To obtain a different result at Hofwyl, Mr. Fellenberg gives much time and care to the study of ancient and modern history, in order to engrave deeply on the heart the great truths taught by it. In the greatest number of establishments of this kind, the fame of which, induces us to compare them with Hofwyl, there is much instruction, but very little or no education at all."

"I shall now speak of the special institution for agriculture, whose object is to teach theoretical agriculture in every respect. in all its parts to great proprietors, or those who will become so, in order to direct great properties with wisdom, ability, and perfect knowledge of cause."

The "Normal school is the ninth and last establishment of Hofwyl. That for the poor class of society offers a system of method and useful proceedings, which ought to be studied. In order to contribute to an useful propagation, Mr. Fellenberg has re-united at Hofwyl, in the summer season, all the school masters of the Swiss villages, who wished to take part. In this re union he communicated himself in respect to the best means to make village schools subservient to education, instructing and bettering the state of the people. It is not easy to imagine a surer way to propagate methods, whose example he shewed at the moment he delivered the doctrine. He wished to extend rapidly the example of better combined instruction. These re-unions had taken place during two years. But the unpopular government of the Canton of Bern judged it suitable to suspend the Normal school, as dangerous to an oligarchy willing to re acquire the handsome privileges of the good old time. The good old time, nevertheless, came not back, the genius of the modern era proceeded, and for the last three years the Normal school has again opened at Hofwyl." All these establishments are admirably adapted to the aid of each other, and to the accomplishment of the great design of perfecting education on the most useful and practical principles, such as must in all human probability insure to society through the rising generation, an improvement in morals knowledge, and practical literature.

"There remains not one entirely insulated—not one is an outwork. The objects are divided elsewhere; in one point the occupation is directed to perfect the things another to instruct and educate men. At Hofwyl there is likewise the question of perfection: there all is approximated; collected and united to operate together at the same time. There is the question to perfect men by things, and things by men. The great art to put in execution the deep thoughts of Mr. Fellenberg consisted in bringing the objects near without confounding them, to influence them in the necessary distance without distraction; and to reconcile the divisions of labour that concentrates the attention upon one object."

Thus ends the first lecture of Mr. Ismar, who is well aware that the Hofwyl system of education in all its details cannot be made practically applicable in the United States, although he is assiduously engaged in demonstrating the superiority of its leading principles and practices in education generally, but especially in the cultivation and improvement of the soil.

I have said that my desire, and hope, in making these extracts, was to induce our public journals, whether religious, agricultural, or political, to copy them for the general reading of the community, with the farther hope they would thereby extend their acquaintance with writings and purposes so big with importance to the rising generation and the general prosperity of the country. It is impossible to do justice to them by abstracts, nothing less than their full detail will convey to the anxious and inquisitive mind on such subjects, their original and intrinsic value; or excite in the hearts and understandings of our people, sentiments, views, and resolutions having an inevitable tendency to the improvement and happiness of society. It is a subject, and with confidence may it be asserted, worthy of the most serious deliberations of our statesmen, examination and countenance of our politicians—and for the mass of the people how absolutely important it is that they should possess light in order to sustain their representatives in all useful works, who are nullities without them. Are we not too excessively engaged in the accumulation of property for selfish purposes of aggrandizement, rather than for its necessary uses, and its beneficial effect upon those who are to follow us? for what is property without education, the proper medium of acquiring it, enjoying it, and bequeathing it—and what is education, if it is not based on principles which are to have a certain tendency not only to promote the immediate happiness of an individual, but the prospective happiness of mankind, through that best of all instruction how to love one's neighbor as himself, and God supremely. Your friend, R. K. M.

(From the Western Tiller.)

An Address, delivered by GEN. WM. H. HARRISON, *before the Hamilton County Agricultural Society, at their Annual Exhibition, held on the 15th and 16th of June,* 1831.

GENTLEMEN:—Although I have been a member of your Society from its commencement, I have not had it in my power to attend any previous meeting since its re-organization. I have not, however, been inattentive to your operations, and it is with great pleasure I have witnessed the renovated zeal that prevails amongst our farmers generally for improvement, and which at least may be claimed as the result of your labours. The condition of the agriculture of our country, although not to be compared with that of some other countries, is certainly respectable; and to those who can look back, and, from personal observation remark the difference which a few years have produced, must be matter of astonishment. You have chosen, gentlemen, a site for your exhibition, well calculated to enhance this feeling. It was perhaps not known to a single member of the committee who made the selection, that in this valley, at a short distance below, the first attempt at agricultural improvement in the bounds of our state, was made, with the exception of a few spots on the margin of the river that forms our southern boundary. Here the first furrow was run, the first seed committed to the earth, by one of those hardy and adventurous men, who under so many privations, and with so much hazard, achieved the settlement of the western country. The hardships which were incurred by those pioneers of civilization, can scarcely be conceived by those who have seen the country only in the enjoyment of peace, and the prosperity which peace produces. Those patriots brought with them a daring and determined spirit to do that, which they believed would be beneficial to themselves and their country, and which was in opposition to no moral obligation. They could not believe that the wise Creator of the Universe had intended a country, capable of yielding support to an immense population, to be forever the abode of the beasts of the forest, and a few wandering savages. But in the accomplishment of their object, they were opposed by those savages with a spirit equally daring, and a determination no less inflexible, to prevent what they considered an unwarrantable encroachment upon their rights. Equally ready to meet their antagonists in the fields of argument or of blood, they appealed to the intentions of a common Creator as manifested by his acts, for the support of their claims.

"What right had the white man to leave the country upon which the Great Spirit had placed him, and crossing a mighty water which seemed intended as an eternal barrier between them, to usurp the lands which the *red men* had received as their inheritance? The same wisdom which had ordained that their subsistence should be procured by the chase of the *buffalo*, the *deer*, and the *bear*, in interminable forests, had given to the white man animals of a different nature, suited to his peculiar taste, and the mode of life which it was intended he should pursue."

Which ever of these arguments may embrace the true philosophy of this question, in the instance to which I allude, the *ultima ratio* was adverse to the white intruders. The unfortunate Cox was the victim of his hazardous adventure; the cabin was built, the field cleared, the corn planted—but at the moment perhaps, when he was, in imagination, enjoying the prospect of a harvest sufficient for the limited demands of his frugal family, and indulging the delightful hope of future independence, and rejoicing that he had at length found

> "One spot of all this earth his own,"

his life and hopes were together ended by the unerring rifle of his ambushed foe. The desolate cabin afforded me a grateful shelter with my small command, on the 21st November, 1791, after having forded the creek, over which the bridge we have just crossed rears its graceful arch.

The unsuccessful effort of an enterprising individual, suspended for a time the progress of the settlement. It was re-commenced in 1793, under the cover afforded by the advance of the army, commanded by the heroic Wayne; and Ludlow's, White's, Griffin's and Tucker's *stations*, were the *nevelei* from which has spread the settlements of this beautiful valley, and all the wonders which you here behold.

I have mentioned these particulars, fellow-citizens, that you may by the contrast, better enjoy the scene which is here presented; yes, I say enjoy! for what patriot, what American, what lover of mankind, can view the scene which is here presented, and not enjoy it? Thirty-eight years ago, the spot on which we are now assembled was a dreary wilderness—not an habitation was to be seen, save a solitary deserted cabin, which only added to the gloom by which it was surrounded. No sound of voices, as now, was heard from men busied in the fulfilment of the commands of their Creator, to cultivate and improve the earth. The silence was unbroken, save by the shout of the Christian warrior, or the appalling yell of the savage, as they mingled in mortal combat. To this scene of solitude, of desolation, and of blood, what wonders have now succeeded. More than the efforts of unaided man could have accomplished, the hand of heaven is to be distinctly traced. Yes! it is to thy influence, fair liberty,

> "Daughter of Heaven! who with indignant eye,
> On pomp and pageant royalty looks down,"

that we ascribe these wonders; only to be effected under institutions which leave the actions of man unfettered, and his mind as free as the air he breathes. To such of you, fellow-citizens, who know the facts I have stated, only from history and the information of others, how astonishing must the present exhibition appear!—but to those few whose eyes have witnessed the change, who saw the settlement in its infancy, and who participated in the difficulties of effecting the lodgment and maintaining the occupancy, how truly wonderful is the change! The highways are skirted with continuous villages, and if no proud castles or splendid chateaus are to be seen, their absence is well supplied by more habitations blessed with all the comforts of life than are to be met with in any equal space in the world beside. Last though not least, behold that splendid artificial river bearing on its bosom the surplus produce of a numerous, active, and laborious people, destined to give subsistence to those who are doomed to cultivate a more stubborn soil, or inhabit a less genial climate. The exports of Ohio are generally the substantial comforts of life, which are every where acceptable; their arrival hailed as a blessing as well in the mansions of the rich, as in the cottage of the poor—by the luxurious inhabitant of the tropics, cloyed with the luscious product of his burning climate, as by the poor negro who ministers to his wants. Alas! that there should be an exception, that a soil so prolific of that which is good, should, by perversion of the intentions of the Creator, be made to yield that which is evil—to scatter life and death with an equal hand. To the heart-cheering prospect of flocks and herds feeding on unrivalled pastures; fields of grain exhibiting the scriptural proof that the seed had been cast on good ground—how often is the eye of the philanthropic traveller disgusted with the dark, unsightly manufactories of a certain *poison*. Poison to the body and the soul. A modern *Æneas* or *Ulysses* might mistake them for entrances into the infernal regions; nor would they greatly err. But unlike those passages which conducted the Grecian and Trojan heroes on their pious errands, the scenes to which these conduct the unhappy wretch who shall enter them, are those of misery and wo. No relief to the sad picture: no Tartarus *there*—no Elysium *here*:—it is all Tartaric darkness, and not unfrequently Tartaric crime. I speak more freely of the practice of converting the material of the "staff of life," (and for which so many human beings yearly perish,) into an article which is so destructive of health and happiness, because in that way I have sinned myself: but in that way I shall sin no more.

The encouragement of agriculture, gentlemen, would be praiseworthy in any country; in our own it is peculiarly so. Not only to multiply the means and enjoyments of life, but as giving greater stability and security to our political institutions. In all ages, and in all countries it has been observed, that the cultivators of the soil are those who are least willing to part with their rights, and submit themselves to the will of a master. I have no doubt, also, that a taste for agricultural pursuits is the best means of disciplining the ambition of those daring spirits, who occasionally spring up in the world, for good or for evil, to defend or destroy the liberties of their fellow-men, as the principles received from education or circumstances may tend. As long as the leaders of the Roman armies were taken from the plough, to the plough they were willing to return. Never in the character of the general, forgetting the duties of the citizen, and ever ready to exchange the sagum and the triumphal purple, for the homely vestments of the husbandman. The history of that far famed republic is full of instances of this kind; but none more remarkable than our own age and country have produced. The fascinations of power, and the trappings of command were as much despised, and the enjoyment of rural scenes and rural employments as highly prized by our Washington, as by Cincinnatus or Regulus. At the close of his glorious military career, he says, "I am preparing to return to that domestic retirement which it is well known I left with the deepest regret, and for which I have not ceased to sigh through a long and painful absence."

Your efforts, gentlemen, to diffuse a taste for agriculture amongst men of all descriptions and professions, may produce results more important even than increasing the means of subsistence and the enjoyments of life. It may cause some future conqueror for his country to end his career

> "Guiltless of his country's blood."

It is with great pleasure that I observe amongst the members of the Society, many gentlemen who are not engaged in practical agriculture; some of them of high standing in the learned professions. Not only will the Society be promoted by their pecuniary contributions, but the occasional contributions of their theoretic views, may greatly assist the practical agriculturist in forming a correct system. There can indeed be no complete system without the union of theory and practice. It is true, that there are many tolerably successful farmers who have no knowledge of the theory of the art, but there can be no doubt that their success would be much greater if they possessed that knowledge. The operations of nature are invariably carried on upon fixed principles; a knowledge of these principles would lead to the detection of many of the errors which are to be found in the practice of almost every agriculturist, and which, without the aid of science, chance alone would enable him to discover. Among the objects to be accomplished by the establishment of such societies as yours, gentlemen, one not the least important, is the influence they may exert to procure the enactment of laws which may advance, or the repeal of those which may be considered prejudicial, to the interest of agriculture. There are two subjects coming under this description, which may possibly require the interference of the Society. There is no person, who has turned his attention to the situation of the western country, that does not know how much the prosperity of the agricultural and mechanical interests of this section of it depends on the trade to the Mississippi; we may multiply our means of communication with the eastern ports, as much as we may by means of canals and rail-roads, still from this part of the Ohio, and below us, for many of our articles, we must daily depend on the states of the lower Mississippi. This market will be a good or bad one, in proportion to their wants and their ability to purchase. Their wants will be in proportion to the increase of their population; and both the increase of their population and their ability to purchase, will depend upon the success of their agricultural pursuits. It is obvious, therefore, that *we* have a deep interest in whatever concerns *their* interest. Their prosperity must be our prosperity; their adversity must inevitably bring a correspondent depression upon us. One of the principal articles, (perhaps the most important,) of the produce of Louisiana, is sugar. Its cultivation to any considerable extent, is posterior to the cession of the country to the United States. Under the fostering care of our government, which afforded it a protecting duty, it has been greatly extended, producing advantages to the country as well as the planters. Among the former, is the abstraction of a large amount of labor, from the cultivation of other articles which had been produced to an amount beyond the demand. In this way the southern states, particularly the cultivators of cotton, were greatly benefitted; while the western states reaped the advantage of an increased demand for almost every article of their agricultural and manufacturing products, and a diminution in the price of sugar, in the last 20 years of at least *three hundred per cent.* Before a sugar manufactory can be put into operation, an immense amount of iron work, machinery and castings, as well as wagons, carts, drays, &c. &c. must be procured. These are purchased at Pittsburgh, Cincinnati, or Louisville. Horses, oxen, and a supply of provisions must be obtained; and these are purchased of the western farmer. Sparingly and economically perhaps at first, but always increasing as the cultivation and manufactures progress. If the enterprise is successful, where are the surplus gains of the planter expended? Who is there in this part of the country so ignorant as not to know, that a large portion of them comes into the pockets of the farmers and manufacturers of the upper western states? As his means increase, the sugar planter makes a more ample provision for the support of his family and labourers; the comforts of the negro are increased by the allowance of a larger portion of better food. By these additions to the expenses of the planter, the western farmer and mechanic are benefitted. When enabled to obtain better, the planter is no longer contented with the homely furniture of his first establishment. Orders are given for more costly and elegant articles. And on what places are the orders given? Not on London or Liverpool, or even on New York or Philadelphia; but on some city on the Ohio. And this is one, not by any means the least, of the vents for those splendid articles which are poured out in such quantities from the shops of our Wards, Porters, Lehmans, Skinners, McAlpins, Jameses, Lees, and hundreds of others. The trade to the lower Mississippi is peculiarly beneficial to the farmers on the Ohio, and its navigable tributaries. From their situation hundreds, I may say thousands, are enabled to dispose of their products in that distant, but convenient market, without an intermediate sale to a merchant, or the employment of a factor or carrier. They manage the whole matter of transportation and sale themselves. Effecting the latter immediately to the consumer on his plantation, or the exporter at New Orleans. There is not one that has engaged in this business that does not know, that it is frequently the want of the means of purchasing, which prevents the planter from buying a whole boat load of provisions rather than a small portion of one; and that if he would take sugar and molasses from the planter in exchange for his own commodities, he could sell the latter at a higher price, and obtain the former at a cheaper rate than by cash sales This fact was stated to me a few days ago by an intelligent farmer of my neighborhood, who has for many years been engaged in that trade; and shews that the planter finds great difficulty in disposing of his crops, even at the most reduced prices, and that he is willing to reduce them still lower to obtain the produce of our soil. If the facts I have stated are true, and the deductions I have drawn from them correct, it would appear very extraordinary, that any southern or western man should have supported the proposition to remove the protecting duty, and place the sugar planter of Louisiana precisely upon a footing with those of Cuba, in which island all the products of the United States are subjected to a most onerous duty, which, in relation to some of them, almost amounts to a prohibition. Apart from the impolicy of taking off the protecting duty, the measure, to the people of Louisiana, would be full of injustice. Their cultivation of sugar was commenced under the protection of a duty, and there was nothing that could have indicated any change in the policy which dictated it. Protecting duties are given in every instance where they are necessary to the staples of the other states; to the tobacco of Virginia and Maryland, the hemp of Kentucky, the wool of Ohio, and why not to the sugar of Louisiana? There is another article which is subjected to a duty by the general government, to which it may become necessary for the Society to direct its attention. After the opinion I have given in relation to the duty on sugar, I may be accused of inconsistency, when I avow my hostility to the duty on *salt;* at least to an increase of the present duty from *ten* to *twelve* cents, as was attempted during the last session of congress. The two articles of sugar and salt, appear to me to stand upon entirely different principles. As a necessary of life, a tax on salt is in opposition to republican principles. But it has stronger claims to an exemption of duty, than any other article of universal use, because it enters more largely into the consumption of the poor, than the rich. Without salt the country laborers would have no meat with their bread, nine-tenths of whom live upon salted provisions. Whilst the rich man, enabled to procure fresh meat in abundance, might feast luxuriously with a very small quantity. The land proprietor having pastures, to confine his domestic animals, can enjoy the produce of his dairy. But how many of the children of the laboring poor would go supperless to bed, were it not for the salt which causes the nightly return of the cow, which furnishes them with milk, from the interminable forests in which she feeds. Who that has lived long in the western country, has not seen the little white-headed urchins, anxiously watching the evening return of their cow, and the good housewife preparing for her the condiments she loves, and which instinct has taught her to know to be necessary for her health. An abundant supply of salt being so necessary to the most numerous, and most useful class of the community, it is the duty of government to prevent its being loaded with unnecessary burdens. But it is not the poor alone that are interested in this matter. The whole farming interest is most deeply concerned in it, and this particular section more than any other. One of the great staples of the country, that perhaps from which the farmer receives the greatest clear profit, (pork,) cannot be prepared for a foreign market, without a liberal expenditure of imported salt. The duty upon that article is, therefore, not only a tax upon a necessary of life, but an important agricultural product. If the duty was so heavy, as to prevent the importation entirely, no pork, bacon or beef would be purchased in Ohio for a foreign market. As it is, the duty takes just its full amount from the profits of the cultivating class of the community. And yet the principles of the tariff were appealed to by those who favored the increase of the duty, and the reduction stigmatized as a violation of those principles. "The withdrawal of the protecting duty," it was said, "would break up the manufactories of salt in the United States, and the tariff was adopted to protect and encourage, manufactures." Yes: but not at the expense of agriculture. The manufactories which had been established during the war, were it is true, brought by the peace into a most suffering condition, almost upon the point of annihilation; but no sympathy for their sufferings had any influence in the adoption of the tariff. It would have been easy for the manufacturers to change their vocation, and become agriculturists; and as that employment is more congenial to the nature of our government, it would have been better that they should have done so. But, unfortunately, the agricultural interest was, if possible, in a more depressed state than that of the manufacturing. Every branch of it was overdone. Every article produced to an amount beyond the demand of the markets. Having no control over the foreign market, no alternative remained but to create one at home. Every establishment of this kind promoted the object in two ways; 1st, by abstracting hands from agriculture, it lessened the amount of products, 2dly by feeding those who were thus drawn off, the profits of the residue were increased. Upon no other principle would it have received the sanction of the representatives of the people, or of the people themselves. No American statesman would have avowed it to be his object, to make this exclusively a manufacturing nation, to give that interest a preponderance over the agricultural. It was necessity, dire necessity, that induced the government to transfer the work-shops of Europe to our own shores. The collection of such immense masses of human beings, within such narrow limits as manufacturing establishments require, cannot be favorable to our institutions. And for myself, I have as much aversion to converting our hardy, active, clean-limbed husbandmen, into bandy-legged Spitalfield-weavers, as the great American philosopher himself. Protecting duties being therefore given for the purpose exclusively, of aiding agriculture, when ever one of these duties comes in conflict with the interests of agriculture, it ought to be abolished. The salt-manufacturer cannot, like the sugar planter, claim a continuance of the duty, upon the ground that their manufactories were established upon the faith of its continuance; most, if not all, of the establishments having been made when there was no duty upon the imported salt. The act imposing a duty was passed as a war measure in 1812, and never would have received the support of the farming interest, if the avowal had not been made, that the duty should cease with the necessity of imposing it. But there is not the least probability that the reduction of the duty to *ten* cents, or even removing the whole of it would break up the manufactories in the western country. The home-made salt will be used for all domestic purposes. My great fear is, that the price will not be diminished so much as to allow a free use of it to our stock. I believe there is not one of my brother farmers present, but will agree with me in opinion, that the present price is greatly injurious to the interest of agriculture; and that we might very profitably use a much larger quantity than we do, for our horses, our cattle, and our sheep; and that even our swine would be greatly benefitted by it. But notwithstanding the injury which agriculture sustains from the high price of salt, I have to offer you my congratulations upon its general flourishing state. It is a matter of still greater felicitation that its prosperity can be distinctly traced to a system of our own, beyond the control of foreign powers, and not to be affected by any policy they may think proper to adopt. How strangely opposed are the opinions of men, whose situation and interests are apparently the same. Mr. James M Garrett, in an address to the Agricultural Society of Fredericksburgh, of which he is the President, in 1821, tells the Society, that amongst the few subjects of felicitation which the period afforded, was the recent failure of the tariff-bill, which was introduced at the previous session of Congress. Mr. Garrett is a man of the finest talents, and no less conspicuous for the excellence of his character. He is a farmer, and the products of his farm, and that of his district of the country, are perhaps precisely such as ours; corn and wheat being the staples. In a previous or subsequent address, Mr. Garrett denominates the tariff "political quackery;" the effects of which had been to cover the streets of Norfolk with grass! That this was the state of Norfolk there can be no doubt, as Mr. Garrett says so, but it is impossible that it should have been caused by the tariff, unless it operated retrospectively; for its direct operation could not have been felt, for good or for evil, until long subsequent to the delivery of the speech. In a set of resolutions passed at a meeting about the same time, it was asserted, that if the tariff is carried into full operation, "commerce must furl her sails." Now, unless the information we have received is incorrect, the sail of no merchant vessel has been furled for want of a cargo. Indeed it has been said, that in the port of New Orleans there was a great deficiency of vessels for taking off the produce. And how stands the matter in relation to commerce generally? I have within a few days received a letter from a gentleman who holds a very responsible station in the custom house of New York, who states that the duties of the last year greatly exceed those of the year before, and that the receipts of the present year indicate an increase for the whole year, of three millions for that port alone.

It is not for the purpose of blazoning forth our superior sagacity, and still less to taunt our tariff adversaries, that these things are mentioned, but because it has been, and will again be asserted, that the prosperous state of our agriculture and commerce, has been produced by the present and prospective state of Europe, and not by the operation of our tariff. If I should concede that the price of bread stuffs may have been advanced by the bad crops in England, and the commotions in some other parts of Europe, I must be permitted to attribute the rise in the price of other articles, which we do not export, or in very small quantities, entirely to the home market which has been created by the tariff. Such is the case with regard to salted beef, pork, distilled spirits, and wool; all of which bear a price that remunerates the laborer and the grower.

(To be continued.)

(From the New England Farmer.)

SOILING.

This is a term applied to the practice of feeding domestic animals on new mown grass, or other green crops, in racks, yards, stables, &c. Lorain says, of this mode of farm management, that "The farm yard manure acquired by soiling, and that introduced by the roots of the grasses, create in the course of a single round of crops, such an immense improvement in the soil, that after the hay harvest commences, (which is great in consequence of the grass saved by this practice,) an almost perpetual harvest ensues until the corn is cribbed.

"Each crop is heavy in proportion to the ground occupied by it. The labor greatly exceeds what would readily be imagined by those who have not observed the practice; still it may or ought to be partially introduced; especially by wealthy farmers, who have many workers in their own families. Also by those who have but little land in proportion to the labor they can readily obtain from their children, &c.

"It should, however, be remembered, that success is not to be expected, unless a full supply of green grasses, proper for this purpose, have been provided. Also, the very great trouble and perplexity occasioned by red clover, in consequence of the cattle and horses being salivated by the second and third crops of this grass.

"Every farmer should soil his working cattle and horses,whether he may or may not enter into the general practice of soiling. A very small extent of ground will be sufficient for this purpose. This may lie so near to his barn. that the trouble will be little more, if as much, as going to the pastures after them. The grass and rich dung saved by this practice, will be very valuable to him.

"Notwithstanding the great advantages that may be derived from soiling, it would seem that it cannot be generally practised even in the populous parts of this country. The quantity of cleared ground is more than double as much as the population is capable of cultivating properly, without introducing the additional labor, which would be required if soiling were generally practised."

Tansy.—This herb may frequently be observed growing in the country church yards, which induces us to think it was formerly used as a funeral plant. Tansy has this peculiar virtue, that if any dead animal substance be rubbed with it, the flesh fly will not attack it. Boerhave says, the leaves applied to a dead body, and intruded into the mouth and nostrils, preserve it from putrefaction and insects; whence the plant has been called *Athanasia,* that is, immortal plant.—*Exeter News Letter.*

HORTICULTURE.

(From the Gardener's Magazine)

On the Diseases of Fruit Trees in America.

Sir,—Our fruit trees are subject to some diseases, which do not seem to trouble the European gardener and orchardist. I shall notice a few of them, in the hope that you, or some of your correspondents, may aid us in discovering the cause and cure.

The plum and morello cherry trees are disfigured and destroyed by a species of gangrene. The limbs of these trees, and the trunks, when small, swell, crack, and exhibit irregular tumors, of a spongy appearance, which are first green, but change to a black color. The branch soon dies; the sap seems to become vitiated, and, if the diseased parts are not amputated, the entire tree generally fails in one or two seasons. An insect, in its larva state, is generally found in the recent tumors, which Professor Peck has denominated the Rhynchæ nus cérasi; the same, he thinks, which occasions the fall of peaches, apricots, and plums (a formidable evil here,) by the larva eating into the kernel of those fruits long ere they have attained their growth; or another species of the same genus. The first conclusion is probably not correct; for the fruit, in many localities, is destroyed, where the trees have continued healthy. The only efficient remedy that I am advised of, is to cut off and burn the affected parts. All of our stone and many of our seed fruits are grievously injured by insects, which prey upon them in the early stage of their growth, and cause them to drop. Although we can identify the enemy, we are without the means of repelling his attacks.

We have lost many of our pear trees by what is here termed the blight. The disease is generally first discovered upon the smaller branches, often at a distance from their extremities, by the leaves and bark, at a particular point, becoming black and dead. The foliage and wood above appear fresh and green for some days. At other times, the bark upon the trunk, or at the junction of the main branches, becomes dead in irregular blotches, contracts, and ultimately separates from the wood. In three instances, this season, I have found a circle of bark upon the trunk wholly dead, while all above appeared healthy and vigorous. The seat of the disease seems to be in the cambium, or elaborated sap, which becomes a medium for its extension. The progress of the disease is rapid, in proportion to the vigor of growth in the tree; rich soils and wet seasons being most prejudicial. The evil is confined to no soil or situation, though it is less prevalent in stiff grounds and grass lands. The apple and quince appear to be generally though less seriously affected. Some pretend to trace the evil to an insect, the Scólytus pyri; yet my observations have tended rather to multiply than to dissipate the doubts which I have had as to the cause of the malady.

The gooseberry and the grape, particularly the foreign varieties of the latter, are very liable to be destroyed by mildew, when partially grown; and three fifths of these crops are thus usually lost.

A subscription is circulating among us to raise 2000 dollars, to be awarded as a premium for the discovery of a preventive of the depredations of insects upon our stone fruit. Any thing you can offer, therefore, upon the subject of the preceding remarks, will be particularly interesting to your American readers, of whom there are many, and the number is likely to increase as we advance in horticultural improvement. Your publications are much sought after, and highly valued. The Society of this place, of which I am president, subscribes to your Magazine. We have in this state six Horticultural Societies. The subjects of education and rural improvement are the popular topics of the day. We have a respectable Lyceum in this city, which has published a volume of *Transactions,* consisting of original papers in relation to the natural sciences. The volume will be sent to you if you desire it. I was disappointed in not finding a descriptive catalogue of fruits in your *Encyclopædia of plants.* I think you promised one. Cannot you send me such a catalogue?

In a former letter I took the liberty of requesting your good offices in establishing a correspondence with some respectable nurseryman of your country; and I believe I have occasionally sent you some cuttings of fruit, and pamphlets that I thought would be interesting. I have made like communications to the Horticultural Society. I have not yet had the satisfaction of learning, from you or Mr. Sabine, whether my cuttings or my requests have ever reached their designed destination. We have probably the best location for a nursery in the Union, and the demands upon it exceed our means of supply. We are anxious to give it a character equal to its advantages of location, and to enrich it with all the finer fruits of Europe. It is the importance of obtaining a correspondent on whom we can rely, that induces me to renew my importunities for your aid in this matter. Mr. Saul of Lancaster has encouraged us to hope that we shall receive some grafts from you through him in the spring. Such a favor would be particularly acceptable. We have commissioned Mr. Gordon, a correspondent of your Magazine, who proposes to visit New York, to bring us several articles, particularly for the green-house; and, as he will probably see you, you may commit to his charge any communication you have to make. Command me freely whenever I can render you service.

I am, sir, &c. Jesse Buel.

Albany, Dec. 20, 1830.

(From the Gardener's Magazine.)

On the Injurious Effects of Ants

On early forced Peach Trees, with the Means adopted by which they were extirpated, and the Crop of Peaches saved.

Sir,—In more than forty years practice of my father, this is the first instance in which he has known ants to injure the bloom of peach trees. I beg to offer you a statement of the case, in hopes that it may be useful, and become a satisfactory answer to the various queries made on the subject of ants, from the first to the sixth volume of your Magazine.

The earliest peach-house was shut up, and small fires applied on alternate evenings, after the 25th November; the tree roots in the outside border had been excited for some days previous. The fires were increased, and humid air applied, after the 6th of December. On the 10th, some few ants were observed traversing the trellis in quest of their natural food, produced by the aphis. But as great attention had been paid to washing every shoot with a hard brush and cold water when the trees were pruned and tied, no aphis eggs nor aphis capsules remained on them.* This, probably, caused the ants to injure the peach blossoms, which was not discovered until the opening of the petals of two or three of the very earliest blooms, when the filaments, anthers, and pistillum were observed to fall out of the corola. On closer examination, we found that many of the earliest blossoms had the unexpanded petals perforated, the filaments eaten out, and the ants lodged in the nectaries feeding upon the honey. This was on the evening of the 13th of December, and we immediately commenced killing them by hand, dislodging them from the blossoms with slender wires; this was continued by candlelight until most of the ants on the trees were destroyed. We were going to apply the ant-trap of Mr. Boyce (vol. v. p. 730;) but it was suggested that recently cooked

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*In Samoulle's *Compendium of British Insects,* at p. 62, it is stated, that the Aphides have the natural power to procreate, and that viviparously, to the ninth generation, without sexual intercourse.

bones of roast or boiled meat or fish were used for ant-traps on the Continent; and we adopted them with good success. They prevented any more ants from ascending the trees, until the colony discovered itself under the fire-flue at its entrance into the peach-house. They were immediately supplied with the preparation as below, and two days after not one ant remained, nor have any appeared since; but it is necessary to watch the spot for some weeks after a similar destruction, lest any eggs should produce a new colony:—

Take thin slices of wheaten bread, (say ½ oz. weight,) dry it slowly, but well, that it may easily pulverise in a mortar; take ¾ oz. of fine loaf sugar, pulverise it also; add to the two former ingredients, ½ oz. oxide of arsenic, commonly called levigated mercury; triturate the whole well in the mortar, then put it into a clean dry glass bottle; of course the bottle should be labelled with the word "Poison." Very small portions of this poison may be applied on fragments of glass or the flat side of an oyster shell. The smell of recent oyster shells is also an excellent decoy for ants. Small bell glasses, such as are used to strike cuttings under or small garden flower-pots, may be put over the deposit of poison, to prevent moisture from rendering it pasty, as well as to hinder any domestic animals from taking it, If small portions are laid down at intervals of four or six hours, it will not become glutinous, in which case the ants cannot separate it. If bell glasses are used to cover the poison, any curious spectator may see the avidity with which the ants carry off the poison to feed their young. This preparation is equally efficacious for crickets.

Gentlemen and gardeners should be aware that this mercurial poison is equally fatal to vegetable as animal life. Should it be laid on the surface of the soil, round the stem of an orange tree or other plant, it will corrode the bark and alburnum, to the certain destruction of the plant. This I know from experience. Yours, &c.

Welbeck, Feb. 1831. J. Thompson, Jun.

RURAL ECONOMY.

(From the Middleton Sentinel.)

SHAKER BARN.

Mr. Starr,—I hand you for the amusement and information of the practical farmer, a description which I have verbally received from a friend of mine, living in that vicinity, of a large barn built the last season, in the town of Hancock, Berkshire county, Mass. by the family of Shakers, located in that town. It is possible, that in some points, the dimensions may be inaccurate; but you may rely that they are materially correct. Both the size and form are probably unfit for common purposes—very few farmers would wish to collect so much forage and manure, or have so much stock in one place; but all who have any experience in the business, will agree that there is much ingenuity and convenience in the design, for a large establishment.

The barn is built on ground inclining southwardly, in a perfect circle, and is ninety feet in diameter, across it from side to side. The walls are stone, 22 feet in height, of suitable thickness, and laid in lime or well pointed on each side. Round the barn, on the inner side, are stables forming a circle; the manger within and suitable places over it to throw or feed down the hay; the stable and manger occupy about twelve feet, and are eight feet high; the stables open to and from several different barn yards, in order to make as many and such divisions of their stock as they have thought proper. The covering of the stables form the barn floor, which also extend round the barn. There is but one large door way for entrance with teams and loads; this is from the northern side, from an offset or causeway, 8 feet above the base, and of course fourteen feet below the eaves. The cart or wagon that enters with a load, makes the whole circuit of the floor and after unloading, comes out at the same door; thus eight or ten teams with their loads can occupy the floor at one time, in unloading, and not hinder each other. Within this circle of stables and barn floor, is an area or *bay*, as it is usually called, which is filled with hay, &c. which must be over sixty feet diameter. This is pitched in and on from any side or place most convenient, or where wanted.

The roof comes to a point at the centre, and sheds off the rain all round, something similar to an umbrella. It is supported from the inner circle of the barn floor. The roof boards are laid up and down, which, by a transverse sawing of the log were all brought to a point, and then shingled round in the usual mode. M.

(From the New England Farmer.)

BEES.

Mr. Fessenden,—Any experiments made in the management of bees, if successful, ought to be made public, for the benefit of those who have old honey or full hives.

I purchased in the fall of 1829, a small swarm of bees; they worked well through the summer following, but did not swarm. In the spring of 1830 I had a tight house made agreeably to Doct. Thacher's method, and an empty hive put by the side of the old one and opened a communication through the new hive; the bees made some honey in the hive and considerable in the house; in July I turned the old hive upside down and put a new one on top, and the bees went to work in the new hive, continuing the comb upwards from the old to the top of the new hive. About 10 days since, I determined to drive the bees from the old hive into a new one; I separated the top from the old hive by cutting with a large knife the comb across the bottom, and took off the top hive and set it on the stand and then replaced the old hive on its bottom and in a few days found I had got two separate colonies of bees. Monday morning, the 11th, I drove the bees with water from the old hive into a new one without losing a hundred bees, and obtained 30 lbs. of honey and comb. I used a new apparatus invented by a gentleman for his own convenience, who I hope will get a patent for it and make it as public as possible. We put two pieces of comb containing some of the young brood and fastened them in the top of the hive previous to letting the bees in. This day, Saturday 16th, the bees are at work in both hives, busily employed in increasing their stock for the winter. If you think the above will be of any use to the keeper of bees, you are at liberty to publish it.

Newburyport, July 16. Essex.

NEW SAW MILL.

[The last Lynchburg Virginian contains the following account of a newly invented saw mill, which we doubt not will be interesting to our southern friends:—]

Two or three months ago, we called the attention of the public to the plan of a saw mill, invented by our townsman, John Wills, Esq.; which we then thought, from the miniature model exhibited to us, promised to be of great utility, particularly in those sections of country in which timber is abundant and water scarce. Since that time, Mr. Wills has caused to be erected a model about one third the dimensions of an ordinary saw-mill, which we have seen in operation, and which fully satisfies us of the correctness of the opinion which we then expressed—and it is sustained by the undivided sentiment of those who have seen it, including several persons, whose practical knowledge of the business gives weight to what they say.—In this machine, two saws are kept in simultaneous action by the application of a balance power, which is propelled by a force less than half of that which is now requisite to work a single saw—and the motion of the saws is so uniform and steady, as to admit of being worked by horse power as well as by water or steam. The mill is near the court house, and may be seen in operation by any person who will take the trouble to apply to Mr. Wills.

MISCELLANEOUS.

TOADS.

There are few parts of the animal creation that are looked upon with more contempt than *toads;* and yet they are capable of ministering to the comfort and convenience of man. One reason why we look upon them with so much contempt is, that we form our opinions of them, as we are too apt to do with our own species, altogether by outward appearances, without inquiring into their good or bad qualities. We confess that there is nothing very inviting in the outward appearance of one of these animals; but when we make ourselves more acquainted with their habits, our dislike of them ceases, for in this it is as in politics—we laud that man who is working for us, whom we would treat with contempt in another situation. Toads, during the summer months feed almost entirely upon insects, and in the ordinary course of their feeding the number destroyed is quite considerable. Mr. Bradley, in his treatise on husbandry and gardening, states that, a pair of sparrows, during the time they have their young, destroy 3,360 caterpillars each week, or 240 for each bird daily. Now if we make comparison between the size of a toad and a sparrow, and allow that a given weight of either requires a given quantity of food for a certain period, we must suppose that the number of insects devoured by toads is very great. We have frequently seen it recommended to put toads in gardens to preserve young cucumber plants from the striped bug. They are not effectual for that purpose, as the bug does most damage during the heat of the day; at which time the toad either burrows himself in the ground, or seeks some other retreat from the rays of the sun.

They are, however, very useful at the same time for other purposes. The brown worms which destroy the cabbage plants, do their mischief in the night, at which time the toads are on the alert; and if a sufficient number of them are put in a garden, they will protect the cabbage.—But it is during the months of July and August that these animals will be found of the greatest use to the gardener. Although the melon, cucumber and squash vines during these months, are of that size that the yellow bugs cannot entirely destroy them, yet they continue to feed and multiply upon them in a compound ratio, and in this neighborhood the large black brown bugs often become so numerous upon squashes as entirely to check the growth of the vines. Where gardens are fenced with boards and tight, a few toads put in will entirely destroy those bugs, which if left would be sure to appear in an abundance the following spring.

It has been recommended to place small pieces of boards about one inch from the ground, supported upon small stones, in that quarter of the garden where the labors of these animals are wanted, as they will take shelter from the sun, under them; but after cabbage leaves have attained their size, they afford them sufficient covering.

It is of as much importance and benefit to the succeeding crop that insects should be destroyed as weeds, for although insects are furnished with wings, there is reason to believe that they deposit their eggs near the place where they feed, as we frequently observe that fields which have been a few years in grass, when ploughed and planted with vines, that they are not eaten with bugs although contiguous to gardens or old fields where they are very injurious.

"If Brittania rules the waves," said a writing master in a storm, I "wish she'd rule 'em *straiter.*"

THE FARMER.

Baltimore, Friday, August 5, 1831.

The Premium Essays.—The committee to whom the essays offered for the premiums we proposed last March were referred, have recommended that, as there have not been as many essays received as there were premiums offered, (in consequence of the busy time of the year no doubt,) a decision be deferred and the time extended for the reception of essays, till the 1st day of January next. In this recommendation we have concurred, and think the writers of those received will also, when informed that only eight essays have been received, and there were nine premiums offered—rendering it necessary, according to the terms, to award a premium to every one, whether deemed of value or not. Some of the essays received are undoubtedly valuable, but with such a limited competition, the award of a premium could not be considered even by the authors as very valuable. We therefore adopt the suggestion of the committee, and hereby give notice, that essays for the premiums offered in the first number of the present volume, will be received until the first of January, 1832, at which time they will be submitted to the committee for decision.

We do hope that gentlemen will meet us liberally in this attempt to awaken a spirit of improvement in agriculture, and that they will consider well the propriety of continuing their countenance to the fatal error, that "all agricultural subjects have been exhausted." We confess our astonishment at the frequency with which this most unfounded remark is made, by gentlemen too of intelligence! As well may it be said, that all other subjects have been exhausted, and, therefore, that nothing more need be said or written. Let any intelligent man travel ten miles with an observing eye to the present state of agriculture, and then ask himself if there is nothing more to be learned by our farmers. It is a mistake, gentlemen, a very great mistake, and one fraught with more evil consequences to our country than you are aware of.

Extracts from a letter from Commodore David Porter, U. S. Consul General, to the Barbary states, to John S. Skinner, Esq. dated

Mahon, June 8, 1831.

I am now packing up for Naples, to join my brother-in-law, Dr. Heap, who is there with my sister, and dangerously ill. Thence I proceed to Constantinople, where I shall endeavour to get you a pair of "key hole cats," and perhaps some other strange things. I now send you some seeds of a nut-bearing pine tree. We have nothing of the kind in the United States. It is a beautiful and useful tree, and furnishes a luxury for the table. I shall have a parcel of the apples put up, and deliver them to Capt. Stevens, of the Ontario, who will be home in about a month after this reaches you. You can cultivate the tree as you would cultivate corn, only a *little* further apart. There are some beautiful groves of them near Algeziras, opposite Gibraltar, as well as in Italy. You may eat the nut raw or slightly roasted, and you will find it a real delicacy. The slight turpentine taste it has is a refinement on luxury. I hope they may arrive safely. If Mrs. S. wants pretty ornaments for the tester of her bed, or her window-curtains, and for various other purposes, she has only to send the pine apples to the gilder, and he will return them more beautifully perfect than if they had been made by the hands of the best carver.

I shall try and send you a very simple mode of cultivating the silk worm, preparing the silk, and adapted, in the most simple form, to the use of families. I shall get it from a poor, plain Mahonese woman, who, for her amusement, raises the worm, separates the silk from the cocoon, spins and manufactures, and sells it. She showed me several pounds of excellent sewing silk, of the remains of what she had last year. I shall send you a sample. You will be surprised at the simplicity of all the means of obtaining silk, and of the little trouble attending it.

This is written in haste, as the vessel sails immediately, (this afternoon;) but to-morrow, if I can possibly spare time, I will give my attention to the subject and be more particular. The cultivation of silk is not as troublesome as the cultivation of flax, and infinitely more certain and profitable. The simple mode, which I hope to be able to describe, will, I expect, induce our good housewives to give some attention to the subject, and, by a gradual introduction of its culture among us, save, in the end, millions of money, which finds its way to this side of the Atlantic. For silk is an indispensable article, and is one of the first necessity; as much so as tea and sugar. No man or woman can put on a coat, shawl, hat, glove, or dress himself, or herself, in any way without it. Excuse haste—more anon.

Yours, truly, David Porter.

J. S. Skinner, Esq.

Mr. Smith: *Triadelphia, July* 29, 1831.

Enclosed are some stalks of a grass which has escaped my particular notice for sometime, on account of its close resemblance to the orchard, and oat grass, the latter of which I supposed it to be, until undeceived by a friend. I found it growing in the corner of an old garden, on the bank of a hedge which surrounds, and in a marsh which adjoins it, in all of which situations it grows luxuriantly, much more so, than any of either the oat or orchard grasses I have ever seen, the leaves and stalks that you will perceive shoot out from the main one, intermingle so closely with others as to form a mat which completely obscures the earth, and I think would produce at least four tons per acre. The specimens sent were taken from the firm ground, though on the edge of the marsh, and are rather coarser than those upon the bank or in the garden. Judging from the various situations in which it grows, (though all rich) I think it might be grown on either upland or lowland, and a poorer soil, to advantage. An old woman who cultivates the garden says, she has frequently cut the grass for her cow, and that she eat it with more avidity and in preference to clover, she likewise says it has been a great pest to her for the last seven or eight years, and finds it very difficult to eradicate, and could only get rid of it by repeated hoeing and digging. It blooms, and the seed ripens with timothy, yet the stalk and leaves retain their greenness. As this grass is a stranger to me, and every person to whom I have shown it, I am induced to believe it has been overlooked as one unworthy of cultivation, and have therefore presented it to your notice to determine whether or not it is deserving the place I am disposed to assign it, among others in which we have had more experience. I suppose it to have been brought with other seeds and sown in the garden, and being so tenacious of life that it has retained its hold, from this latter property I should infer it would be easily cultivated upon any soil. I have collected a few heads for the purpose of making some experiments. You perhaps can inform me of what species it is, and whether it has ever been cultivated; your ideas on this subject would much gratify,

Your friend, J. P. Gilpin.

[The stalks of grass accompanying the above, measure 6 feet 6 inches in height, and have several branches from two to three feet long, commencing from 2 to 4 feet from the ground Notwithstanding the great height of the stalk it is by no means hard or woody; but quite soft and hollow, and in this respect resembles a stalk of green rye. The blades, which are numerous, are generally from 9 to 15 inches in length. The heads are about 6 inches long, resembling very closely the head of orchard grass, (*Dactylis glomerata*) but the branches of the head are more closely set. There is one striking peculiarity which seems to distinguish it from all other grasses we are acquainted with: the stalk and leaves retain their very deep green color, notwithstanding the head has become perfectly dried and colorless. As yet we have been unable to ascertain its botanical name. We cannot find it described in any of our books, though it has shades of resemblance to many species of grass described in the Hortus Gramineus Woburnensis. We shall continue our researches and inquiries, till some definite information shall be obtained respecting it; and in the meantime would suggest that our friend should save all the seed he can, and if he does not wish to use it himself we shall be glad to get it and give it a trial, for it really does seem to be a most valuable grass.—*Ed. Am. Farmer.*]

Review of the Havre Markets.

June 20th.

The following report embraces the transactions from the 9th to the 18th inst. inclusive.

Beeswax.—A few trivial sales only of fine New York, have been made within the range of our quotations: for inferior qualities there is no demand whatever.

Corn and Flour.—In foreign wheat we have had no sales: 1600 ho. Britany of 75 ko. were purchased at 63 f. per 200 ko. being an advance of 2 francs per 200 ko: the wheat of our environs fetches 62 to 67 f. per 200 ko. according to quality.

American flour is in limited demand for home consumption; 200 brls. N. York bought at 41f. 50, were resold at 42f. per brl. duty paid, for the French colonies; and a sale of 300 brls. took place at the latter price, for the same destination. Import, 1000 brls. from N. York, by Formosa.

Stock this day in first hands: wheat, 1100 ho; flour, 1000 brls. besides 5000 ho. Britany wheat.

Same period last year, wheat 17,000 ho; rye 6000 ho; oats 5400 ho.

Import duty up to 5th July, surtax of ten per cent. included.

	per French vessels.	per foreign vessels.
Wheat, per ho.	27½	1 37½
Rye, . . .	1 10	2 20
Barley (*) . .	27½	1 37½
	prohibited.	prohibited.
Wheat flour p. 100 k.	55	2 75
Rye flour do	7 15	9 35

Cottons.—The supplies received since our last report, have amounted to 6314 bales, of which 6651 bales United States descriptions.

The sales within the same period consist of 2996 bales as follows: 960 Louisiana, at 90 a 95; 1337 Upland, Mobile and Tennessee, at 78 a 94; 4 Sea Island, at 200; and 695 Pernams, at 103 a 108: all these prices duty paid. There is no variation in our rates.

Stock 31st May	20,664 b. of which	17,146 b. U. S.
Arr. up to 18th June	10,087 b.	9,914 b.
	30,751 b.	27,060 b.
Sales up to 18th do.	8,386 b.	7,413 b.
Stock do 18th do	22,365 b.	19,647 b.

Prices Current in Charleston, July 23.

Cotton, Sea-Island, .17 a .20. Upland .7 a 9½. Santee and Maine 16 a 17. *Rice*, prime, $3 1-8. a —, inferior to good, ditto $2¼. a .2¾. *Flour*, Philadelphia, Richmond and Baltimore $5¾ a ——. *Corn* .50 a .56. *Oats* 30 a .32; Peas. 60 a 62. *Hay*, prime Northern, 75 a ——*Whiskey*, Philadelphia and Baltimore, hhds. .35 a 36; bbls. 36 a 37; New Orleans, old .40 a —. *Beeswax*, .18 a —. Tallow, Carolina, 8½ a —. *Beef*, Boston, No. 1, 8½ a —. Mess, 10 a —; New York Prime —. *Pork*, Mess. .16 a ——; Prime, .13 a ——. *Bacon*, .7 a .8 cents; hams, 8 a 10, Lard, 10 a 11. *Butter*, Goshen, 16 a 18¾; inferior 8 a 10.

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* Permanent duty not being subject to the variations of the Mercurial.

Prices Current in New York, July 30.

Beeswax, yellow 19 a 20. *Cotton*, New Orleans .10 a 12¼; Upland, .8 a .10; Alabama, .8 a 11½. *Cotton Bagging*, Hemp, yd. 15 a 20; Flax 13 a 14½; *Flax*, American, 7 a 8.—---*Flaxseed.* 7 bush. clean .—-- a .—— *Flour*, N. York, bbl. 4.75 a 5.00; Canal, 5.00 a 5.50; Balt. Hwd. st. 5.25 a 5.37; Rh'd. city mills -—— a-—— country, 4.75 a 5.00; Alexand'a. 4.75 a 5.12; Fredericksburg 4.62 a —-; Petersg. 4.62 a 4.75; Rye Flour, 3.50 a 3.62; Indian Meal. per bbl. 3.37 a 3.50; per hhd. 17.00 a 17.25; *Grain*, Wheat, North, 1.00 a 1.06; Vir. 1.00 a 1.03; Rye, North, 70 a —; Corn, Yel. Nor. 65 a 68; Barley. — a —; Oats, South and North, .32 a .36; Peas, white, dry, 7 bu. 5. Beans, 7 bu. 7.00 a 8.00. *Provisions*, Beef, mess 8.50 a 9.00; prime 5.50 a 5.75; cargo 4.62½ a 5.00; Lard, 8½ a .11; Pork, mess, bbl. 14.00 a 14.75; prime 10.00 a 11.25.

Prices Current in Boston, July 27.

Apples, new, bbl. —-- a —--. *Beans*, white, bushel .90 a 1.00. *Beef*, mess, bbl. 8.50 a 9.00; cargo No. 1, 7.25 a 7.75; No. 2, 6.25 a 6.50. *Butter*, inspected, No, 1, new, lb. .15 a .18. *Cheese*, new milk, 6. a 8.; skimmed milk, 3. a 4. *Flour*, Baltimore Howard-st. 5.25 a 5.50; Genesee, 5.37 a 5 62; Rye, best. — a —. *Grain*, Corn, bu. .68 a 70; Rye, .75 a .78; Barley .60 a .67; Oats 36 a 40. *Hogs-Lard*, 1st sort new, lb. 10 00 a 10.25; *Pork*, clear, bbl. 17 a 18; Navy, mess, 13.00 a 14.00; Cargo, No. 1. 13.50 a 14.00; *Wool*, Merino, full blood, washed, .70 a 75; do. do unwashed, .— a .—. Merino mixed with Saxony, .75 a .80; Merino, three fourths washed, .60 *a* .63, do. half blood, .56 *a* .58; do. quarter, 45 *a* 50. Native, washed .45 a .50; Pulled, Lambs', 1st sort, .58 a 60; do. 2d sort, .45 a .47; Pulled Spinning, 1st sort, 50 *a* 53.

CABBAGE SEEDS.

Received by the late arrivals from England my usual supply of first rate CABBAGE SEEDS.

To those who in former years have bought seeds of me, I only need say these are the production of the same gentleman who has supplied me these fourteen years with such very excellent seeds. To those unacquainted with them, I would observe, these seeds are raised by one of the first botanic gardeners in the neighbourhood of London, and are of exceedingly approved kinds and quality, and very suitable to this climate for a spring crop. It is a fact well known to every experienced gardener that European garden seeds, especially Cabbage, Cauliflower, Broccoli, early Radish seeds, &c. &c. produce incomparably better crops than can be obtained from seeds raised in this country.

In confirmation of the above, I will here subjoin a copy of a certificate that was given to me seven years since for insertion in the American Farmer, by some of the most respectable gardeners of the Baltimore market, who still continue to purchase and sow these seeds.

Baltimore, July 14, 1824.

We, the undersigned, hereby certify that the cabbage seeds called Early George, Bullock's Heart, Early York, and Early Wellington, which are imported and sold by Samuel Ault; are of the very best quality; having made use of them ourselves for several years, we pronounce them early and genuine, likewise very hardy in standing the winter. As witness our hands.

JOHN MYCROFT. PETER HATMAN.
THOMAS LEWIS. SAML. REGISTER.
EDMUND EVINS. VALENTINE LUTZ.

The price of the above Seed is 37½ cts. per ounce. or $4.00 per pound. The ounce will yield upwards of 2000 fine cabbages. The time to sow these seeds is from the 10th to the 25th September. Printed directions respecting the proper soil, treatment and cultivation of these cabbages will be given gratis with each parcel of seed. Orders, with remittance, from all parts of the United States, (postage paid,) will be promptly attended to, if directed to "Samuel Ault, No. 78, Ensor, (late Bridge) street, Baltimore." I have likewise, Drumhead, Flat Dutch, Green Dutch Cabbage, Savoy, Early Harvest, and Early Screw Cabbage seeds. Also, Cauliflower, Broccoli, and Radish seeds of all kinds, warranted first quality.

August 5.* SAMUEL AULT.

THRESHING MACHINES.

The subscribers are now making Threshing Machines on both the Spike and Beater principles, the experience of former years, and the attention which has been paid to that desirable object, has enabled them to construct the machines in such way as to combine simplicity and durability, and to perform the work with expedition, and in the event of accident, the strength of the body of the machine is such as to confine the damage to such part as may be easily repaired by the farmer. In one of the Spike Machines we set the spikes in solid bars of iron three fourths of an inch thick, and rivet them on the back; a machine of this kind set up at Poole's Island for Peregrine Wethered, Esq is getting out twenty bushels of wheat per hour, others will be set up in the neighbourhood of Baltimore in a few days which will afford sufficient reference.

Warren's Beater Machine patented in April last, the cylinder of which is entirely covered from end to end with wrought iron hoops from which spurs are forged out, which form the parts that act on the grain; the construction of the whole machine appears to be such as to preclude the possibility of breakage.

One of these has been set up in this neighbourhood which thrashes fast, but the actual quantity per hour not ascertained, another machine will be set up in two or three days from which more particular accounts may be had.

Horse powers to propel them, both portable and stationary kinds furnished.

Also for sale, 150 bushels ORCHARD GRASS SEED, just received of the present year's growth.

Apply to SINCLAIR & MOORE,
August 5. Pratt street wharf.

ORCHARD GRASS SEED WANTED.

WANTED IMMEDIATELY by the subscriber, a few hundred bushels of Orchard Grass SEED of this year's growth, and free from noxious seeds, for which cash will be paid on delivery. Who has on hand his usual supply of Agricultural Implements, such as superior Ploughs, Wheat Fans, Cultivators, Harrows, his patent cylindrical Straw Cutter, superior Rag Cutters for paper making, Dutch Cutting Boxes, Scythes, Hay and Manure Forks, Hoes, Brown's vertical Wool Spinners, Wire Safes, and Wove Wire, &c. &c.

Also a general assortment of the Messrs. Landreth's Garden Seeds, for sale, and will furnish fruit and ornamental TREES from their nursery to order.

And likewise keeps a general assortment of Grass Seeds for sale, of such as can be depended on.

J. S. EASTMAN,
August 5. No. 36, West Pratt street.

WOOL WAREHOUSE.

LYMAN REED,

Commission Merchant, No. 195 *Baltimore street,*

Devotes particular attention to the sale of WOOL. Any consignments of the article forwarded to him for sale, can be disposed of immediately for CASH, at the highest market price.

CASH, and a fair price, will be paid for a few thousand pounds of *good wool*, (if offered immediately,) to supply orders now on hand.

Refer to Messrs. Cobb, Wyman & Co. Baltimore.

A general assortment of Agricultural Books kept constantly for sale at this office.

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BALTIMORE PRICES CURRENT.

Baltimore Market.--A slight improvement has taken place in flour owing to the continued scarcity. The wagon price of Howard street yesterday fluctuated between $5.25 a 5.37½, but any considerable supply would undoubtedly cause a depression in price unless a favorable change takes place in the foreign demand. Grain continues pretty much as heretofore—fine lots command our highest rates. The prices of wool have declined a little, and the article seems fast settling down to a more wholesome condition. Our present rates are founded on actual sales. Beef continues without much alteration.

Tobacco.---Seconds, as in quality, 3.00 a 5.00; do ground leaf, 5.00 a 9.00.—-Crop, common, 3.50 a 4.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 10 00; yellow and red, 8.00 a 14.00; yellow, 14 00 a 16.00.—Fine yellow, 16.00 a 20.00.-—Virginia, 4.00 a 5.00.—Rappahannock, 3.00 a 4.00——Kentucky, 3.50 a 8.00. The inspections of the week comprise 206 hhds. Md.; 121 hhds. Ohio; 118 hhds. Kentucky; 8 hhds. Virginia; and 3 hhds. Penn.—total 458 hhds.

Flour—best white wheat family, $6.00 *a* 6.50—super. Howard-st. fresh $5.37½; city mills, fresh, 5.25 Susq.—-- *a* —--; Corn Meal, bbl. 2.25; Grain, Md. red wheat, 90 *a* 1.08; white do. 1.10 *a* 1.20, Susq. 1.05 *a* 1.09-Corn, white, 63 *a* 65--yellow 63 *a* — Rye. 60 *a* 62. Oats, .28 *a* 30. Beans, 75 *a* 80--Peas, 65 *a* 70—Clover-seed —— *a* ——Timothy, 2.00 *a* 2.50—Orchard Grass 1.25 *a* 1.75—Tall Meadow Oat Grass 2.75—Herd's, 50 *a* 75-—Lucerne 30 *a* 37½ lb.——Barley, —--Flaxseed —-- *a* ——Cotton, Va. 9 *a* 9½-——Louisiana 11 *a* 13 —Alab. 9½ *a*. 11—-Tenn.. 9 *a*. 10—-N. Car.. 9 *a* . 9½—— Upland 8 *a* 9½-Whiskey, hhds. 1st p. — *a* 33—; in bbls 35 *a* 36—--Wool, *Washed*, Prime or Saxony Fleece 58 *a* 67; American Full Blood, 52 *a* 58; three quarters do. 45 *a* 52; half do. 40 *a* 45; quarter and common do. 35 *a* 40. *Unwashed*, Prime or Saxony Fleece, 36 *a* 40; American Full Blood, 34 *a* 36; three quarters do. 32 *a* 34; half do. 30 *a* 32; quarter and common, 27 *a* 30—— Hemp Russia ton, $255 *a* —; Country, dew-rotted, 6 *a* 7c. lb. water-rotted, 7 *a* 9c.—Feathers, 35½ *a* 36; Plaster Paris per ton, —-- *a* 4.00, ground, 1.37½ *a*—— bbl. Iron, gray pig for foundries per ton 33.00 *a* ——; high pig for forges, per ton, 28.00 *a* 30.00; bar Sus. per ton, 72.50 a 80.00.—Prime Beef on the hoof, 5.00 *a* 5.25—Oak wood, 3.00 *a* 3.25--Hickory, 4.25 *a* 4.50—Pine 2.00 *a* 2.25.

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EDITED BY GIDEON B. SMITH.

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TERMS.

1. Price five dollars per annum, due at the middle of each year of subscription.
2. Subscriptions are in all cases charged *by the year*, and never for a shorter term.
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Printed by John D. Toy, corner of St. Paul and Market streets.

AGRICULTURE.

THE HESSIAN FLY.

Cambridge, E. S. Maryland,
July 27, 1831.

Mr. Smith:

Allow me to say, I am pleased to perceive you collecting and circulating through your most useful paper, notices, in regard to the "Hessian fly;" this fatal insect, which threatens to destroy the farmer's best hopes, must be diligently studied: its movements and habitudes closely watched, and free, unreserved communications made of every discovery, in *fact*, or *hypothesis*, in relation to it.

The extract in your paper of No. 19, on this subject from the "Genesee Farmer," contains perhaps, a plausible *conjecture*, "as I would term it," of the habits of this insect: viz. "that the fly, immediately on its escape from the chrysalis, at the bottom of the stalk of wheat, proceeds to deposit its eggs on the grain, while in its milky state, (why in its *milky* state I do not perceive, if the deposit be on the grain) which, when sown under favorable circumstances hatch; the larvæ ascend the young stalk, and fix themselves among the first leaves where they are again found in the chrysalis." And the writer says, "as its habits are *well known*, farmers should guard against its ravages," this I apprehend is a gratuitous assumption; but if founded in fact, it is the moral duty of the writer, for which performance, Maryland, at least, would owe him the highest obligations, to authenticate by his name, and all the evidences he may possess, the all important truth; anonymous notices of facts, cannot in the nature of things be so well accepted, as those which bear the author's name. Indeed it is strange, so important a discovery, if really made, should not, before this, have travelled so short a distance, to the relief of thousands of sufferers: and moreover, the fact of the habits of this insect, as stated by the Genesee writer, if true, is in collision with a common law of nature; and therefore requires the stronger evidences for its support.

It has been remarked by all close observers, and writers on "Zoology," that every species, and variety of species, of each genus, have, if not precisely the same, at least, very similar habitudes, under which "life," and "procreation" are produced, and supported; and in the respect of "nidification," this similarity is strongly marked, as far as observation has reached; and in none more than in the families of the "insect" class: the "curculio," of which family, is the "weevil fly," "fruit worm," &c. &c. perforates the fruit or grain to obtain its nidus; and though each species or variety of this family may have its peculiar preference, yet, all for this purpose of nidification, seek fruit, (including in the term, "grain,") by invariable instinctive impulse. The "aphis," the family to which the "Hessian fly" belongs, deposits its eggs on the young and tender stalks, and leaves of trees and plants; each variety has also its peculiar and respective preference of sorts, but the whole "tribe," of which any thing has been heretofore known, conform to this common law of their nature, to deposit their eggs on the stalks and leaves: and none have been heretofore known to select the fruit for nidification; if then, the "Hessian fly" forms an exception to the rule, the fact requires the strongest evidences for its support, because all the force of violent presumption is arrayed against it; and this must happen whenever an isolated fact which contradicts common observation, or, in other words, a *mystery* is announced to the world.

Another objection occurs to this mode of nidification, of the Hessian fly: the husk enveloping the grain, would interrupt the deposit, unless the insect were provided by nature with a piercing oviduct, (as some families of insects are;) and if thus armed and operating, as the Genesee writer says, while the grain is in a soft and milky state, the husk then is in close cohesion with the grain, and the puncture would inevitably enter the grain, and lodge the egg within it, to the great annoyance of the curculio-weevil-fly, whose domicil it naturally was, and also to the discomfiture of the "*Hessian intruder*," which is *known* to be nourished by the absorption of the sap of the stalk or leaf, and not in any case by the farina of the grain, as the weevil-fly-curculio; thus unprepared with the organs of mastication, it would be incarcerated for life, and nature defeated in her purposes.

These suggestions I have hastily thrown out, to elicit inquiry on this most interesting subject, and to urge the Genesee writer, or any other gentleman, who may be in the possession of facts, in relation to this Hessian arch-fiend, its movements, and habitudes, or of any means of defeating its fatal operations, to communicate, unreservedly, his knowledge, or even his rational conjectures, by which the wheat section of our country may be preserved from the imminent fate which now so seriously awaits it.

Agricultor.

An Address, delivered by Gen. Wm. H. Harrison, *before the Hamilton County Agricultural Society. at their Annual Exhibition, held on the 15th and 16th of June*, 1831.

(Concluded from page 165.)

[The name of James M. Garnett Esq. the intelligent and patriotic president of the Fredericksburg Agricultural Society, was printed *Garrett* in the first part of this address published in our last number. Printers consider it their duty to follow the copy, though it lead them out of the window; and as the error originated in the pamphlet copy received by us, it escaped our attention.]

It has been uniformly asserted by the opponents of the tariff, that the establishment of manufactories here would destroy the markets for our produce abroad. But when has it been that any foreign power would take from us any article but from necessity? When they have no bread of their own raising, they receive our flour. At present, we have two markets; one at home, which we have created for ourselves, the other abroad, which circumstances have given us. If we had not created the home market, and if circumstances had not created one for us obroad, we should have no market for our products, and they would be now rotting on our hands, as they were a few years since. I believe that not one of the evils which were predicted from the tariff, have happened, and not one of the advantages which were promised from it but have been realized; and nothing but the folly of abandoning it, can bring us back to the hard times through which we have passed. If I wanted an additional argument to urge its continuance, I would mention the solicitude of British politicians for its abrogation. I was lately much amused at the remarks of one of them. He professed the greatest possible regard for the American character, "an intelligent and industrious people," but it was so singular, that with all their intelligence they should be so far behind the rest of the world, in knowledge of the principles of commerce, as to adopt protecting and restricting systems, when the most enlightened nations abandoned them. This remark, coming from a subject of the country which originated the protecting system, and which has continued it to this very hour, on all the staple commodities of a large portion of the United States, and removes it only at the very starvation point of some millions of their most useful citizens, gives us great reason to question his candour when he calls us intelligent. The cries of the women and children of Manchester and Glasgow for bread, must reach the ears of the collectors of Liverpool and Greenock, before they can permit the entry of a single barrel of American flour. Look, says this writer, at our liberality: we have taken off a great portion of the duty upon wool, although it is well known to be one of our principal products. Yes! I have no doubt they would add to their liberality, and give a premium, if by so doing, they could induce us to send them our wool, and thus break up our manufactories. It may be asked whether, under any circumstances, I would be willing to abandon the tariff. I answer without hesitation, in the affirmative. Whenever the streets of Norfolk and Charleston "shall be covered with grass," and our southern friends find no market for their produce, and this state of things can be distinctly traced to the tariff, I would then instantly give my voice for its modification or entire repeal; even if I should still think that its continuance would be beneficial to a majority of the American people.

The first principle of a republic is, the rule of the majority. This however, pre-supposes the possession by the majority, of sufficient intelligence and virtue to prevent them from inflicting unnecessary injuries upon the minority. Indeed, there is another principle of our government no less sacred than the one I have mentioned, and not to be found in any other code, (except in relation to *privileged minority*) that the minority have rights, which are not only intangible by the majority, but unalienable by themselves. But in this conflict of interest, which is to decide? The majority certainly, but upon the principle of strict justice. But when these are disregarded? Why then we shall no longer be fit for a republican government, and then let come what may. Our southern friends are, however, certainly in error in relation to the operation of the tariff, and must soon discover it. Indeed, I am certain that it cannot be long, before the cotton-growers of the southern states, will apply to be protected against the introduction of that article from South America. I gave this opinion last winter, to a friend from the south, and he requested an explanation, which I gave him in the following manner.

Suppose, said I, that a neighbour of yours and yourself, cultivate the same article for the supply of a common market. His estate, twenty times as large as yours, but yours sufficient to supply all the demand. That beside the advantage of the size of his estate, the article cultivated by your neighbor was of perennial growth, bearing two crops in the course of twelve months; whilst yours was an annual plant yielding but one crop, and requiring to be annually renewed. That in addition to these advantages, he possessed that of being able to support his laborers upon a vegetable growing upon trees, answering all the purposes of bread, and an extremely nutricious food for domestic animals; whilst yours were fed with grain raised by yourself at considerable yearly expense, or purchased (as on the Mississippi,) after being transported a very considerable distance. Against such an inequality do you suppose you would be able to contend? Would not your neighbour very soon monopolize the market, and force you to adopt the cultivation of some other article?

Such, it appears to me, will be the situation of the cotton-growers in the United States, in relation to South America, as soon as the affairs of that country are in a tolerably settled condition. If all the cotton lands in the United States were brought together in one mass, they would be but as a point on the map, compared with the immense regions of South America which are favorable to the growth of many varieties of that plant. Some of them bring constant and successive crops until the plant is exhausted. In the plantain, too, they possess an article so nourishing and so easily reared, that to a superficial reader of the text, it might appear to contradict the command of scripture, that "man should earn his bread by the sweat of his brow."

In noticing the improvements in rural economy in our own neighborhood, it is painful to observe how little has been done towards substituting more durable fences than those which are in common use. The old worm fence, unsightly and disfiguring as it is to our farms, and withal insufficient and costly, from its great waste of timber, still continues to be the favorite. A change, however, must soon take place, for the country will not much longer supply the materials for constructing it. If any fence composed of rails is used, the best is certainly that of double posts, confined with a cap, and having a worm of one foot to prevent the rails from passing each other. It is much cheaper than the single post fence, more lasting and more easily repaired. If posts or stakes of locusts or mulberry can be procured, they will last many years. But the wood of the *Catalpa*, affords perhaps a more lasting material than either, is of very quick growth, and easily cultivated. This valuable tree is indigenous to the lower part of Indiana, and grows to a very large size upon the Wabash, and some of its branches. Its ability to resist decay has been sufficiently tested in the neighborhood of Vincennes, both under ground and in contact with it.

Over the little stream of the Desha, five miles from Vincennes, one of these trees had fallen, before any emigration had taken place from any of the states to that place. It was certainly lying there in the year 1785, when a colony of Virginians, from the south branch of the Potomac, emigrated to that place, and for many years served as a foot bridge over the stream. I was informed by a gentleman of undoubted veracity, that it was only partially decayed a few weeks since. The same gentleman (Dr. Hiram Dickson,) informed me, that a bar-post, which was made by his father, and put in the ground at a little stockade work, which was erected in the year 1770, and which has been taken up and removed to his own farm, by his brother-in-law, Major Andrew Purcell, is still sound, and answers the purpose for which it was originally intended.

The catalpa is much esteemed as an ornamental tree, but I do not know that it has been used as a timber, any where but in the vicinity of Vincennes. It is now growing very luxuriantly on Mr. Short's and my own farm, raised from the seed. In situations where the timber is scarce, and the earth adapted to it, I think it will be very advantageous to resort, both for fencing and building, to the mode of construction called Pise, or compressed earth. This mode of construction is extensively used in France and Spain; and was introduced by the colonists of the latter country into South America. In some of the provinces of Colombia, there is scarcely to be found a house or fence of any other material. I have seen and particularly examined large churches, and other houses, which claim an origin almost coeval with the first settlement of the country, and exhibiting no evidence of decay. And some fences were pointed out to me, which were said to be 200 years old.

The mode of construction is exceedingly simple, and when the material (that is the proper kind of earth) is convenient, it must be remarkably cheap. The earth suited to this kind of building is not pure clay nor sand, but such a compound as is met with almost every where in this section of country. Clay of the strength of that used for bricks will answer, but is not the best.* When a house or fence is to be built, a foundation of stone must be laid, without mortar, a few inches wider than the width of the proposed wall, and rising about six inches above the surface of the ground. Upon this foundation the superstructure is to be raised. A kind of box, the sides of which may be from two to three feet high, and eight or ten feet long, is to be prepared to receive the earth, the end boards of the same height of the side boards, and of the length that the wall is to be in width. The box is not to be nailed together, but the several parts to remain separate until they are wanted, and then kept together in the manner hereinafter described. To give a proper degree of strength, the side pieces should be formed of three narrow boards, tongued and grooved, and confined on the outside by battons. These sides when about to be filled with earth, are placed on the stone foundation, and confined by cramps, precisely such as are used for the trunk, or forebay of a mill. In other words, you lay upon the stone foundation three joists, about three feet six inches long, three and a half inches broad, and three inches thick, having a mortice in each end ten inches long; these mortices receive the tenons of posts three by four inches thick, five feet long, and which, of course, exceed the height of the box about eighteen inches, the mortices of the joists being ten inches long, and the tenons of the posts not more than two and a half inches are intended to permit the dimensions of the wall to be reduced as you raise it up. The ends of the posts should be secured with iron to prevent their splitting.

The joists being placed as directed, on the stone foundation; the posts in the mortices of the joists, with the keys to keep them up; the side pieces of the box placed inside the posts, and the end pieces at the two extremities secured from falling out by strong ledges nailed on the side board,—the operation of filling in the earth is commenced, some two or three inches thick at a time. Two men then getting inside the box, commence the operation of pounding with wooden beaters formed of some hard wood. The head of the beater is not a plain surface like the head of a common mall, but not unlike the soldering iron of a tin-man; or perhaps more like the fist of a man, the knuckles representing the lower extremity. Another beater having two square sides, to be used in the corners of the box, will also be found necessary. In Columbia, the earth beater that I saw, is in the shape of one of our canoe paddles, excepting that the extreme point of the blade with which the beating is effected, is an inch and a half thick. But the most material circumstance to be attended to—that indeed upon which the whole success of the operation depends, is the degree of moisture in the earth which is used. It is to be neither wet nor dry earth, but moist earth. If it is wet, the pounding will have no effect, the mass rising in one place as it is beaten down in another. If dry, there will be no cohesion. But used in a moist state, the small quantity of water is driven out by the operation, and the natural cohesion of the earth takes place to a degree that is scarcely credible to one that has not witnessed it.

In our climate, exposed as it would be to severe frosts after heavy rains, a pise wall will certainly require a roof of some kind. In Colombia, the higher walls, those for convents, churches and court-yards, are covered with tiles. In the country, they often content themselves with putting brush-wood, grass, and even unpounded earth over it, which are removed as they decay or are washed off. I have however, seen a vast deal of this kind of fencing without any covering at all. Upon seeing an old wall, clothed with moss, of upwards of a mile in length, near the town of Serenza, without any covering, I enquired its age, and was informed by a gentleman that it could not be less than 150 years old; that he had recollected it for upwards of 40 years, and that it had not changed its appearance in the least in that time. At Serenza there is never any frost, but the rain falls for six months in the year in such torrents, that it is scarcely conceivable to those who have never been in the torrid zone.

I will not pretend to form an accurate estimate of the cost of pise walls either for houses or fences. There can however, be no doubt, that for the former, they would be found much cheaper than any other material, and for fencing than any other with the exception of wood, and taking into view the difference in durability, much cheaper than any fence in which that article is used, with the exception of hedges. If we compare the operation of constructing a pise wall with that of brick or stone, it will be found greatly in favor of the former. To make bricks, the earth must be dug, well worked up, taken to some distance, moulded, again lifted, spread on the drying yard, a second time lifted, set in a kiln, and then burned, at no inconsiderable expense. After all this labor, you have only one of the materials with which to commence your wall. While all that is required to make pise, is to take the earth to the place where it is wanted and pound it. The labour of which, I take to be no greater, than what is necessary to prepare the mortar for bricks. And really and truly, for the purpose to which the two materials can be applied, I had quite as soon have the pise as the brick. When well made, I have no doubt it is more lasting, and as it receives white-wash or any colouring with great facility, and retains it for a long time, both houses and fences of this material, may be rendered exceedingly picturesque and ornamental.

Many people will no doubt be incredulous as to the great durability of pise, believing it to be impossible that simple earth, without the aid of any other material, would acquire so great a degree of hardness as to resist the action of the atmosphere for centuries, as pise houses and fences are known to have done, in France as well as South America. It is however the homogeneousness of the mass which causes its great degree of strength and solidity. An evidence of its possessng those qualities is to be found, in its resisting the shocks of earthquakes better than any other material. I have the authority of Mr. Restrepo, late Secretary of the Interior for Colombia, that in his native province of Antioquia, which is much subject to earthquakes, and where pise houses of this description are considered much safer than any other. There are I think few places in the western country where pise may not be advantageously used. But throughout the prairie country, where the soil is not too sandy, its introduction could not fail to be highly advantageous. I have said, that it requires a stone foundation. It would be certainly much better to have one—but for fencing I think it may be dispensed with, provided the water is kept from it by proper drains, and the top secured with a sufficient roof of wood, tile, or thatch. I omitted to mention, in its proper place, that the posts which confine the sides of the box in which the earth is rammed, are not confined at the top with wooden caps, but with ropes, for the convenience of expanding or contracting the wall at pleasure, and that two round sticks of wood are used, to keep the side of the box from pressing in during the operation of pounding. But it appears to me that the period has arrived for greatly curtailing the expense of fencing in the more populous districts of the state. This object is to be accomplished by prohibiting swine from running at large. It has hitherto been resisted, upon the ground of injury to the poor. That this is a mistaken notion, in those places where the country is as generally enclosed as in the county of Hamilton, I am quite certain. It is very rarely the case, that hogs running at large have any other legitimate resource for food, than a miserable pittance of grass collected in the corners of fences or by the way side. All that they otherwise obtain, is by highly injurious depredations upon fields from which they are intended to be shut out, and which very often are not the property of their owners. But with all that they may acquire in this way, when the season for putting up arrives, it requires more grain to fatten them than they are worth. I am convinced, that ten hogs kept in that manner, will not yield as much as two closely confined, and well fed. My friend Col. Ferris, late of Cincinnati, informed me that he purchased four pigs in the market of Cincinnati, put them in a small pen, bought all the corn which was fed to them, of which he kept an accurate account; he kept them six months and then sold them, and after deducting the first cost and the price of the food they had eaten, he found he had made twenty dollars clear profit. On the 2d of September last, I took two hogs from a lot I had just purchased, and confined them in separate stalls, where there was not room enough for them to turn round, and only just enough to rise up to their food, and then lie down. They were each accurately weighed when they were put up, and again weighed on the 3d of November following, when it was found that the per diem increase of each was upwards of two pounds, one of them reaching a fraction above two pounds two ounces. They were fed as much as they would eat, with boiled purslain, or pumpkins, thickened with Indian meal, and with dry corn. I did not prefer the corn in that shape, but I could spare them no more of the prepared mess, without depriving my other hogs of their proper share. I do not however attribute this uncommon increase to the kind of food, but to the constant state of repose the animals were in after they had satisfied their appetites. This circumstance has long been known, to be highly favorable to the fattening of any of the brute animals, and particularly the hog. In the large hogstyes in the vicinity of the city of Mexico, where many thousands of those animals are fatted, it is said that boys are employed to sing to them after they have been fed, as a means of lulling them to rest. Whether the effect is produced by this means or not, it is evidence of the general prevalence of the opinion which I have advanced. If such advantage is to be derived from keeping hogs confined in styes, would not every description of people engaged in agriculture, be benefitted by preventing them from running at large; in those parts of the country which are thickly settled, I mean; for, although swine reared in close styes make much the best pork, the article which our eastern friends are said so much to delight in, and which prepares the fish and the vegetable mess for our gallant tars, it is by no means the best to make that article,

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* A larger portion of sand is desirable; the clay which is mixed with gravel is perhaps the best. The rich earth of our native forests, contains too much vegetable matter, but when this has been exhausted by cultivation, the action of the sun, and the washing of the rains, almost any of our uplands or Ohio bottoms will answer.

"Though with green peas, a dish exceeding fine,"

and with which our county men, Messrs. Pugh, Gano & Lee, have for several seasons, tickled the palates of our friends in Baltimore. Such pork would even baffle their art and that of Mr. Reynolds united, to make bacon of the first quality. For that purpose, they must have hogs that have enjoyed the blessings of liberty and exercise, at least a large portion of their lives.

One of the many happy effects which have been produced by the establishment of agricultural societies. is the influence they have in exploding opinions founded upon false theories, which are transmitted from father to son, adopted without examination, and implicitly believed, for no other reason than that they have been believed by past generations. The mischiefs which have been produced in the world, by this misplaced confidence in the wisdom of our progenitors, is incalculable. Nor is the blame entirely to be attributed to the ignorant and unlearned. Men of science have not unfrequently lent their aid to the confirmation and establishment of error. We find it even in France, the country which, perhaps, of all others, possesses the most scepticism. Dauberton, a French gentleman, who is denominated, and no doubt justly, "a philosopher, a man of letters, and a profound naturalist," and who holds a high rank in the Royal Academy of Sciences of Paris, in a late work on the care of sheep, has given his authority to the opinion long established in France, that dew and white frosts are extremely detrimental to sheep. He says, that "it makes them cold, causes indigestion, and gives them a relax." (page 63.) With wonderful inconsistency he says, that, although they cannot eat frost and dew without being made sick, they may eat snow without injury! Now, every English and American farmer knows, that the sheep, as well as the other granivorous animals, delight

"At early dawn,
To taste the dew-besprinkled lawn,"

and that they never receive any injury from it.

An idea prevailed through Europe, that the excellence of the Spanish merino wool was owing to the annual migrations of the sheep. And as there was no other country in Europe which could have tolerated the destruction to the agricultural products, which the passage of such immense flocks produced, all the manufacturing countries were content to purchase the wool of the Spaniards, rather than attempt to raise it for themselves. An attempt was at length made in Sweden, then in France, in 1784, by the importations of some of these animals, which showed the utter fallacy of the opinion which so long prevailed. The sheep taken into France were placed upon a National farm called Ramboulet, where they have continued, and instead of the wool deteriorating, the fleeces have increased both in quality and quantity.

The Society have, with great propriety, directed a considerable portion of their attention, to improve the breed of domestic animals. It is a matter of much impatience, to ascertain whether there may not be some opinion or practice which impedes these efforts. I think that there is; and it is with a view to elicit further inquiry that I mention it, when I am certain that nine-tenths of my brother farmers will be found to differ from me. When a man's stock of cattle, hogs, or sheep, particularly the two last, have become, through neglect or bad management, much deteriorated, the question is asked, what is to be done to produce a better state of things. The answer uniformly is, change them, cross the breed. So with his grain—if his corn and his wheat have ears and grain of half the common size, he must go to a distance and get other seed. Now, I do not believe a word of the theory upon which this practice is founded. What! would you not recommend the changing of animals and seed? Yes! always to procure better, but never for what was inferior; nor would I trouble myself to procure even them of the same quality, for the sake of change, even if they came from the Cape of Good Hope or China. The true principle of improving both animals and vegetables, is that of selection; and it is perfectly immaterial, whether the animal or the seed which you use, be raised from a stock located upon our place for a century, or been brought from the antipodes. This was the plan of Mr. Bakewell; and he succeeded in raising all the domestic animals to a model which he had formed in his mind, of the perfection which they should attain. This model was formed in reference to the particular object for which the animal was intended, and attention was paid both to beauty and utility of form. In selecting his breeders, he chose of course the most perfect animals he could find; but in pairing them he took care not to bring together those which were deficient in the same parts. If he had a ram remarkable for the fine form of his body, but whose legs were too large, he chose a ewe whose legs were of the size and shape he liked. If he had a mare which was well formed in the head, neck, and shoulders, but deficient in her hind parts, he would select his stallion with as much perfection in the latter as he could get one. By pursuing this course, he succeeded in a manner truly astonishing, raised an immense fortune, and acquired a fame, not confined to those immediately engaged in his own calling, since his notice and correspondence was considered an honor by the greatest of the crowned heads of his period. It is believed that Mr. Bakewell made his selection almost exclusively from his own stock, without regarding the nearness of consanguinity. My object is, to recommend this course to my brother farmers. I by no means must be understood to say, that crossing the breeds is improper, and still less, that every effort should not be made to obtain the best animals in the first instance, particularly those fine cattle which have lately been introduced from England, and the fine-wooled sheep from Spain and Saxony, or the English and China hogs; but that much may be done by proper selections from the domestic breeds, and from a man's own stock, if he is unable to purchase better. In support of the opinion I have advanced, that crossing the breeds and changing the domestic animals from one farm to another, is not necessary to their improvement, I will mention two facts, and one fact is better than a very long argument.

A neighboring gentleman, of Kentucky, observed to me early last summer, that his sheep had become very indifferent, and that he was determined to sell them and buy others. I knew that the rams were suffered to run constantly with the ewes, and that the lambs were dropped in the midst of winter when the ewes had no succulent food, and could give little or no food, and of course, that when the spring arrived, both the mothers and their offspring would be in a state of poverty, from which they could scarcely recover before the return of winter. I recommended to him to endeavour to resuscitate his flock, by separating the males from the females, until the month of October, and use more care in the selection of the former. This was immediately done; and the result has been, that his ewes are at this time in finer condition, have yielded a good crop of wool, and his lambs are better than any in the neighborhood. The other fact to which I referred, is, that a merino flock of sheep had been kept at North Bend, upon the same pasture every summer, for six or seven years, and instead of depreciating have manifestly become better.

The same favorable result will be produced in constant and judicious selections of feracious grains. If a farmer will always carefully pick out his best ears of corn and his best ears of wheat for seed, his crop will always be of good quality. I admit, that changing the ground, by a rotation of crops, is necessary to produce good grain; but it is perfectly immaterial whether the seed, which is to be sown has grown upon an adjacent field, or at the distance of one hundred miles, *provided it be good*.

This admission of the necessity of a rotation in crops, may perhaps be used against me, and it may be said, that nature, delighting in change, may render it necessary to change the location of animals also. The reason for a rotation of crops is, however, very different from that which is assigned for changing animals. It is because the continuance of the same grain for a succession of years upon the same soil, so much exhausts it, that the plant no longer finds the necessary nourishment. The power to afford this nourishment must be restored to the soil in one of two ways, either by manuring or by a crop of some vegetable, as clover, which gives to the earth more than it takes from it. That the same field will produce good crops of the same grain, for a long succession of years, by natural or artificial manuring, there can be no doubt.

There are many persons living who can testify, that a part of the alluvial bottom at the mouth of the Great Miami has produced a fine crop of Indian corn forty-one years in succession. It will this year produce 100 bushels to the acre, if properly cultivated. The rich deposit from the back water of the Ohio, which annually covers it for some weeks, still keeping up its original fertility.

It is thus with the domestic animals. If you have bred them from parents which have been well selected either from your own flocks and herds, or those of others, and keep them constantly supplied with good nourishing food, there will be no necessity to send them on their travels for their health.

I beg leave to recommend to the proprietors of small farms in the vicinity of Cincinnati, the practice of feeding cattle in stalls, or small lots, in summer, upon cut grass. A farm of no great extent may be made to fatten at least double the number of beeves than it can do by pasturing them. It is much used in England, and is there called soiling. Red clover answers for this purpose exceedingly well. But I have no doubt that lucerne is much better. It affords more nourishment than any other known grass, and its vegetation is so rapid, that it may be cut once or twice oftener than clover, and affords a larger quantity at each cutting. It has been longer in cultivation, perhaps, than any other grass, having been used extensively by the Romans. That it has been so little attended to in the western country, proceeds from its being not so well calculated for pasture or hay, as some of our other grasses, and from its not reaching maturity in one year. But those who have very small farms, or gentlemen in cities, who may have a lot or a part of a lot to spare, would find great advantage in its cultivation. When it has once got thoroughly rooted, it will last without renewal a man's life time. Sowing it in drills eighteen inches apart, is better than broad-cast.

Gentlemen, the place of your meeting should never be suffered to become the arena for the discussion of party politics, and I should be the last man to attempt to make it such. There are, however, certain great principles, belonging to our system of government, which should be in order to be introduced any where and every where: in every assemblage of American citizens. And never, perhaps, was there greater propriety in allowing this latitude, than at the present moment. The world appears to be every where in commotion. Materials are collecting for an explosion that is likely, in the greater part of it, to destroy the long established state of things, and give a new aspect to its moral and political character. As every citizen of this happy country has the same interest in its well being and prosperity, and an equal voice in the conduct of its affairs, it is proper that every one should devote some portion of his time to understand correctly the situation in which we are placed, and consider the course we are to take in the mighty conflict which is commencing in other quarters of the globe, and through which we have triumphantly passed. Our course, it appears to me, is a plain one. If some benignant spirit, anxious for the happiness of mankind, were looking down from Heaven on the scene which this world presents, however much it might desire to promote the troubling of the waters elsewhere, as a necessary preparation for future health and happiness, for us it would desire that we should remain as we are. We have no bastiles, no inquisitions, no institutions the offspring of a remote and barbarous age, which must be overturned and broken down before we can assume the rights and privileges which were intended for us by our Maker. We possess them already. There is no necessity for us to make experiments, or travel upon untrodden ground. Our political maxims are few and simple. Our constitution, the charter of our rights, is written with no Pythean or Sybiline obscurity. We have, besides, the advantage of repeated and learned expositions from those who framed it, and the best of all commentaries—an unexampled prosperity of forty years continuance. Why, then, should we change? Why seek for new versions, when the old has stood the test of experience? We know that as a nation, we are positively happy, and compared with others, transcendantly so. Let us, then, remain as we are; and to do so, let us constantly recur to the fundamental principles of our government. One of them should be prominent in the exordium and peroration of our public speeches—the *delenda est carthago* of all our orators and patriots. I mean that which teaches us not to devote ourselves to the interest of an individual to the sacrifice of measures called for by the public good. Gracious Heaven! that any American should become the pander to the ambition of his fellow man, forget the sacred obligation of duty to his country, and prefer the interests of one to the happiness of millions.

It has been said, that when a man reaches a certain degree of moral turpitude, he is abandoned of his God and suffered to pursue his career of guilt until he reaches the very acme of crime. Such would seem to be the case with those false republicans who abandon their professions and their principles, and become the instruments of an unhallowed ambition. Man is tolerant of the errors of his fellow man as long as principle is concerned, but never when they differ about the choice of a master. In the latter case, he loses his humanity and becomes a tiger insatiable of blood. Let us, therefore, have the maxim, "*Measures and not Men,*" constantly before our eyes, till by reflection it is indelibly engraven on all our hearts.

HORTICULTURE.

(From the New York Farmer.)

Sketch of a Lecture delivered before the Rensselaer County Horticultural Society, by Pro. A. Eaton, *on the Decay and Death of Plants.*

Lansingburgh, July 14, 1831.

Dear Sir,—We transmit to you, for publication, a sketch of a lecture, delivered by Prof. A. Eaton on the 12th inst. As the lecture was given extemporaneously, we can present no more than a few principal heads.

Mr. E. enumerated six periods of duration of plants, as proper for the consideration of the horticulturist, though not recognized by the scientific botanist.—1. Midsummer termination, as flax and oats; 2d. Autumnal termination, as indian corn and cabbage; 3d. Annual termination, as wheat and rye; 4. Biannual termination, as thistle and mullen; 5. Radical perennial duration, as tansey and sage; 6. Cauline perennial duration, as apples and cherries. He said he should confine himself to the two kinds of perennials.

He referred to the known fact that perennials of the most extended duration have a limit, and that the living principle, in all organized beings, seems to gain strength until the natural limit of increase in size is attained. Here it remains stationary for a proportional period, and then begins to yield to its ever active and untiring enemy, *chemical* attraction. At last the living principle is overcome, and the constituent atoms of the organized body are left to the unopposed laws of chemical combination. Putrefaction necessarily ensues, and those atoms, whose arrangements gave such elegant symmetry to the vegetable or animal, while under the control of the living principle, now unite in the form of disgusting gasses, liquids and shapeless solids.

Mr. E. then led his auditors to the necessity of the reproduction of plants from the seed, in order to perpetuate the existence of species. He showed that propagating plants by the buds, was merely a local extension of the same individuals, and not a reproduction. The buds of roots (as those called eyes on the potato) are analogous to the buds of trees; and that planting potatoes, engrafting and inoceulating with buds, are but different methods of performing equivalent operations. Consequently old age has the same effect in such cases, as upon a single unextended individual. Engrafted trees are subject to the unfeeling effect of years, equally with the original tree from which they were taken, though the branches of the original tree may be thus continued for centuries after the original one is dead, by its food being, as it were, masticated by the young stocks into which they are engrafted. Hence the importance of setting grafts of long admired fruit into young and thrifty growing stocks, and the great absurdity of engrafting at the root and afterward cutting away all the original stock; leaving the graft, enfeebled by age, to masticate and prepare its own food.

From the preceding statement Mr. E. inferred that the practical horticulturist would perceive the necessity of renewing from the seed the best varieties of apples, pears, peaches, plumbs, cherries, currants, goose-berries, potatoes, carnations, &c. This may be done, with little trouble or expense, by planting annually three or four square feet with the seeds of such plants, and training them until their qualities are known.—Then the good varieties may be multiplied indefinitely, and the bad ones rejected.

Unfortunately the science of vegetable physiology was not yet progressed far enough to aid the horticulturist in the art of procuring desirable varieties from seed. He will eventually succeed by patient perseverance only; the subject was rendered familiar by the exhibition of a few very common specimens, and by references to parts familiar to the most careless observer.

PEACH TREES.

[The following observations, on the insect which is so destructive to peach trees, are taken from Say's Entomology:]

The egg is oblong, dull yellow, and so small as to be only discernible by the naked eye. Excepting when confined, the female has rarely been seen in a state of rest, and then she is observed perched on a leaf, which is possibly the place of deposit; though he is inclined to the belief that the egg is laid on some part of the bark of the tree. The young insect, or larva, is of a white color, the head being of a reddish brown. It is difficult to discover the movements of the larva, in consequence of its small size, but its destructive career certainly commences about the last of September or early in October, by its entering the tree through the tender bark, under the surface of the soil. After having passed through the bark it proceeds downwards into the root, and finally turns its course towards the surface, where it arrives about the commencement of the succeeding July.

Having attained its full growth, the larva changes to the pupa state between the first and middle of July; enveloped in its covering, it may then be seen close to the trunk, surrounded by the gum which oozes from the wound. In this state it continues from the tenth of July to the latter part of that month, or beginning of August. Mr. Worth examined his fruit trees on the tenth of July, when he obtained twenty of the coverings, and about thirty larva or grubs, which had all arrived near the surface of the ground, for the purpose of undergoing their great change into winged insects.

Against the depredations of this insect, remarks Mr. Say, many supposed remedies have been prescribed, and such as the application of hot water, tanners' bark, and flour of sulphur to the root of the tree, and soft soap and lime wash the trunk; but it is obvious that no application of this kind can injure the insect, without coming in contact with it whilst it remains in the egg, or infantile state, on the outside of the tree, for having penetrated to the interior, no superficial application can affect it. The various substances placed around the root of the tree, such as ashes and sand, the uncovering its base during the winter, and covering again for the summer, are all inefficient and even injurious to the health of the trees. Mr. Worth recommends the practice pursued by careful gardeners, to take a brick-layer's trowel early in the month of July, and opening the ground around the trunk, the lodgment of the insect will at once be discovered, by the appearance of gum, and it can at once be destroyed. More effectually to destroy them, he advises, that from the first to the middle of August, some swingling tow, a piece of hairy hide, the hair inside, but turned over at the top, be tied close around the trunk of the tree, the under edge being just covered with earth, so as to prevent any passage beneath; about the middle of September remove the bandage, and immediately give the whole trunk of the tree a covering of soft soap or lime wash, well brushed on, that no spot from the top to the root may remain untouched. Either this mode of treatment, or a bandage of tobacco leaves or stems, ought to be applied about the first of September, and kept on till November.

Another cause of the decline of peach trees is the not stirring up the ground. This occasions the disease called "the yellows," which is often prevented by simply ploughing and keeping the earth free and clear from grass. Mr. Gilliams, of this city, states that he has found great benefit to his trees, by opening a small basin around the trunk of the tree, and filling it with the ashes of common anthracite coal. His trees, treated in this manner, assumed a more healthy appearance than others, and were not at all infested by the insects. In the American Farmer it is stated that a coat of lime-mortar, about half an inch thick round the body, with the earth drawn to it, is highly efficacious. Mr. Say thinks this the most useful.

We make no apology to the lovers of good peaches for occupying so much space with this subject; it possesses interest for both farmer and citizen, and will tend to prove, we hope, that the labors of naturalists are not wholly without utility.

(From the New York Farmer.)

INSECTS INJURIOUS TO FRUIT.

Mr. Fleet,—On page 133 of your current volume, "D. T." has described a new enemy to the vine, and expresses a wish to be informed "whether this insect has appeared in other places." I hope your correspondents in all parts of the country, will answer this enquiry.

For New Haven, (Conn.) and its vicinity, I answer that this insect made its appearance last spring, but not I believe, for the first time. Its numbers, however, were unusually great, and the injury which it has done to the vines, is wholly unexampled. Some vines were entirely despoiled of their fruit buds, so as to be rendered for the present season, barren. An Isabella that bore 300 bunches the last year, is now destitute of fruit. The ravages of this bug were succeeded by those of a small chestnut-coloured, smooth worm or slug, quarter of an inch in length. The bug is supposed by some to be the parent of this worm or slug. This, however, is only supposition, and that not very probable, as it is not common among the *insect* tribes, to find the parent and the offspring, at the same time feeding upon the same food.

It may be deserving of attention that vines trained upon a wall or board fence, wholly escaped the ravages of the bug. The reason probably is, that the sheltered vines put out their leaves a fortnight earlier than those which were exposed; and, when the bug appeared, were too far advanced to be much injured.

I have discovered a fact in relation to the *curculio*, which, as it may lead to further discoveries, I shall be excused for communicating. Fessenden, in his "New American Gardener," page 175, says, "The insect (*curculio*) retreats into the earth and *passes the winter in the chrysalis state*, and comes forth just as the young fruit is forming, to renew its mischievous labours." With a view to ascertain the correctness of this account, I put some moist earth into a tumbler, about the 1st of June, and placed about twenty small peaches, containing worms upon the earth, and covered the tumbler with a piece of glass. June 30th, the worms had all left the peaches, and had crawled into the earth below. July 7th, the worms had divested themselves of their skin, without having formed a shell or cocoon, and were nearly changed to bugs.—At this time they were white, and shewed upon the breast the soft rudiments of the proboscis, legs and wings. These parts had not attained their full size, and appeared immoveable. One insect, however, had completed its metamorphosis, and was a perfect bug of a mahogany colour. All have since left the earth of their own accord, having finished their change, and are now (July 19th) creeping about the tumbler, and feeding on a plum leaf. On the 10th of July, I opened the ground under a peach tree, and found the insects in great numbers, from two to four inches beneath the surface, in all stages of their metamorphosis. July 19th, I found one in the earth, under an apple tree, but could find none under peach trees. It appears then that *this insect retreats into the earth about the 1st of June, where it divests itself of its skin, and changes into a bug before the 19th of July, by which time it leaves the earth.*

What becomes of the bug from July to May following, remains to be discovered.

Some other circumstances, not stated above, are worthy of notice. 1st. On presenting some bugs, in their white soft state, (July 10th.) to fowls in a coop, they were greedily picked up. 2dly. While in the earth, the body of the insects appears to be in constant motion. Taken out and put into a glass, without earth, they soon cease to move; their legs and wings do not appear to enlarge, but become hardened on the breast; the wings do not spread over the back, but remain in their first position. The animal appears to be covered with a hardened gum which confines the limbs. Some of them have died, and the rest will probably share the same fate. In order to effect its metamorphosis successfully, it seems necessary for the insect to be enclosed in earth sufficiently moist to keep its exterior soft and pliable, and where by its constant motion it can rub off the gum that surrounds it.

These circumstances suggest *for trial*, two modes of extirpating the insect—stocking the fruit orchard with fowls, making the earth under the trees mellow enough for their toes to penetrate easily the retreats of the insects; or hauling away the earth under the trees, about the 10th of July, to the depth of three inches and spreading it thin in the sun.

Paving under the trees as proposed by Mr. Prince; shaking the trees frequently, as proposed by Doctor Thatcher; catching the insects in a sheet as proposed by "D. T." are all ineffectual guards against the ravages of this insect, in a country full of orchards, as is Connecticut.

The curculio is not the only insect that produces the worm in our fruits. I stated above that about twenty peaches were placed in the tumbler. In the earth under them were six small, oval cocoons, thick, strong and smoothly spun, which contain worms that manifest no approach towards a change. The same cocoons are also found under peach trees. The worms in these envelopes are different from those of the curculio; they are smaller, they are white throughout, while the larvæ of the curculio have orange-colored heads.

There is reason for the belief that the larvæ of the curculio, all or most of them, leave the various fruits in which they are deposited as early as the beginning of July, and that the worms found in fruits after that time, have a different parent. Some years ago, I preserved a worm from a Vergalieu pear which produced a grey miller. Last November, a worm from a Newtown pippin placed itself in a cavity on a board, covered itself with a web, and remained till April, when it produced a grey miller like that produced from the pear.

I enclose for your examination, and if you please, a *description*, (for I am no entomologist,) the miller from the pippin, and a few curculios in various stages of their metamorphosis, with three cocoons mentioned above; also a male and female bug, that like the rose-bug, attaches the blossoms and leaves of the grape-vine, and is nearly destructive. N. Darling.

Woodbridge, July 29, 1831.

Microphylla Rose. Small Leaved Rose.—This is one of the most remarkable of the roses. The rose is large and of a handsome red color;—the buds are very curious in form, being very different in structure from those of any other rose;—the great delicacy of its foliage and beauty of its flowers will make it one of the chief ornaments of the garden.

(From the Albany Argus.)

THE BENNE PLANT.

To gratify the inquiries which I observed in one of your recent columns, Mr. Editor, I send you the following:

The *Benne* is the *Sesamum* of Botany. There are two varieties, both native of the East Indies and of Africa. *Sesamum Orientale* has a white flower, which unfolds, with us, in August; leaves ovate lanuolate; lower 3 lobed, upper undivided, stem erect. *S. Induum* has a pale purple flower, leaves ovate oblong, entire. Loudon is evidently wrong in assigning to the *Orientale* entire ovate oblong leaves. The species I have cultivated some years has a white blossom, and the lower leaves 3 lobed.

The Benne was introduced into the West Indies by the Jews, who make the seeds into cakes; and into Carolina by the negroes from Africa. It is cultivated in the Levant and in Africa as a pulse. The seeds afford a very fine oil for table use; and in Japan, China, &c. this oil is used instead of butter in frying fish, and in dressing other dishes. In the southern states, the seeds are extensively used by the blacks, boiled with their homminy, and are sometimes made into pudding, like millet or rice. The variety known here is the *orientale*. It grows from 1½ to 2 feet high. The seeds should not be sown in the open ground until the last of May or first of June. The best method is to start the plants under glass, and transplant afterwards into the open ground.

Medicinally, the Benne is used as a resolvent and emollient. I have known it highly beneficial in diarrhœas, in adults as well as in children, and in allaying local inflammation. One of the clergymen of our city, having witnessed its utility, procured, I understand, an ounce of seed, which he divided among his friends, for cultivation. It is therefore probably growing in several gardens of this city. I have a few plants, which are freely tendered to those who may be desirous of obtaining them for medicinal use.

J. Buel.

VEGETABLE PHENOMENON.

Yesterday, Doctor Edward J. Coxe presented us with a lemon, which grew at the country residence of Lewis Clapier, Esq. On opening the lemon longitudinally, it was discovered, that almost every seed had germinated, and from two or three, roots had shot down, and branches risen upwards, with perfect leaves, making miniature lemon trees within the lemon. Not only was the shape of these entirely developed, but the trunk, branches and leaves were of the rich green *color* that belongs to the lemon tree in its usual state. Different seeds presented various stages of progress. In some, the "sprouts" were just breaking from the shell, in others, the leaf was out, and in all the color was perfect. We are not sufficiently conversant with the history of vegetation to know, whether such a propensity to germinate has been frequently observed in the lemon—we believe an instance occurred some years since, in professor Coxe's garden, and perhaps the present notice will elicit proofs of the frequent occurrence of what now appears a *vegetable phenomenon.* It may be proper to state, the lemons are from last year's blossoms.

[*U. S. Gazette.*

Age of a Tree.—A yew tree at Perronne, in Picardy, which flourished in the year 634, was in existence in 1790; 1156 years, during which it is known to have existed.—*London paper.*

Punica Rubra Plena. Double Crimson Pomegranate.—*Punica Alba Plena.*—Double White. These are beautiful shrubs, and worthy the attention of the admirers of Flora. They will stand the winter in the open ground in our latitude with a covering of straw—the flowers are large, showy, and exceedingly ornamental—they can be raised from cuttings.

PROPAGATION OF FRUIT TREES.

Mr. Smith: *Surry Co. Va. July 26, 1831.*

In the 18th No. of your paper, two extracts, on the propagation of fruit trees, (a subject upon which I feel, at this time, especial interest,) have called to my recollection a plan of effecting it, recently communicated to me, which is, as far as I know, as new as it is simple.

I give it you as I received it from an intelligent gentleman of your state, distinguished then as an agriculturist, who had not tried, and of course could not avouch for its success; but who, from the character of his informant, believed in its feasibility. The plan consists in *tearing* from a limb of the tree to be raised from, in the month of February, a twig or smaller branch, which is to be planted out and treated in every respect as a cutting. The forcible revulsion of the young shoot, from the older bough, takes with it a portion of the old wood; and from the line of union, between it and the yet unhardened wood of the young sprout, the little radicles, which are afterwards to form the roots of the future tree, shoot forth and grow. I am not informed as to the exact *age* of the twig to be used; but infer that it should be the growth of the preceding year. Trees thus raised are said to bear fruit several years earlier than those propagated in any other way: and it strikes me that, if the thing is practicable at all, this method of renewing our stock of fruit bearers must be more certain and altogether better than the ordinary one of grafting or budding, or that practised by the Chinese, in the gradual abscission of a large limb. Any correct information you can procure on this subject, Mr. Editor, and will publish in your journal, will, I am sure, be acceptable to all your readers, and particularly gratifying to

A Subscriber.

RURAL ECONOMY.

HAIL! HARVEST HOME.

"To thee the muse of nature pours the song,
By instinct taught to warble! instinct pure,
Sacred, and grateful, to that pow'r ador'd,
Which warms the sensate being, and reveals
The soul self-evident, beyond the dreams
Of visionary sceptics! Scene sublime!
Where the rich earth presents her golden treasures;
Where balmy breathings whisper to the heart
Delights unspeakable! Where seas and skies,
And hills and vallies, colours, odours, dews,
Diversify the work of nature's God."

Perhaps there never was a country more favored than ours. Extending from latitude 25, to 48 degrees North, it embraces, in its wide range, nearly all the climates of the world. In the southern states, rice cotton, sugar, and all the tropical fruits are cultivated, and carried to the highest state of perfection; while to the north we have all the productions of Europe. Every blessing hangs around and about us. Our intention, however, was merely to remark the happiness of our native state. So wholesome and favourable is our climate (notwithstanding occasional variations) that health sits smiling on every brow, and the hopes of our farmers are never disappointed. Their granaries groan with the weight of the produce of their farms, from one end of the state to the other, and laughing contentment is visible to every eye.

Of the county of Delaware we may speak with more confidence, and can truly declare that health, happiness, and prosperity pervade it; but how could it be otherwise? Our farmers are industrious, honest and prudent, and the evidence of this is visible in every farm house over the county. If every section of the state is as salubrious as ours, then indeed we have mutual reasons to offer up our united thanks to the throne of grace, for the multiplied, and increasing bounties showered upon us.—*Upland Union.*

DOMESTIC INDUSTRY.

A gentleman residing in this neighborhood made his appearance in town, a few days ago, attired in *a complete suit of silk, the product of his own filatory;* the whole process of culture, spinning, weaving, and making, having been performed on his own farm, and by his own family. The fabric, in appearance, nearly resembles *Angola,* but is much softer, and evidently a superior description of goods. It surpasses any domestic fabric of the kind we have ever seen. The suit is gray and mixed, and consists of coat, vest, pantaloons and stockings.

We have no doubt, from what we have already witnessed, that the culture of silk in North Carolina will, in the course of a few years, become a branch of industry, claiming the attention of many of our industrious and enterprising farmers. In a measure it will rival the growth of cotton, and become an article of not only domestic utility, but of revenue to the country. Those who have attempted its culture with proper attention, have always found their efforts crowned with success; and they will yet deserve the gratitude of the people for reducing the theory to successful practice.—*Washington (N. C.) Times.*

MISCELLANEOUS.

(From the Mad River Courant.)

THE MILK SICKNESS.

I think, sir, that a discovery has at length been made of the cause of what is called in the west, the *milk sickness,* or *puking complaint.* This disorder has prevailed from some unknown cause, hitherto in different parts of the western country, and has excited an anxious desire in the hearts of humane individuals, and even in legislative bodies, who have offered a premium for the discovery of the cause and remedy.

The first persons I ever heard of, falling victims to this violent attack, were Mr. Wm. Tompkins, of Virginia, and Mr. Bernard Fowler, both of whom died on Bank lick creek, Kentucky, about the year 1794 or 5. I again heard of it prevailing soon after on the Turkey foot fork of Eagle creek, in Kentucky; also in a Mr. Smith's settlement, near the forks of Licking river; again in Henderson county, Kentucky, near the red banks: subsequently in other parts of Kentucky.

In settling the State of Ohio, soon after the luxuriant herbage began to be eaten down, it prevailed on the head streams of Paint creek, on Darby creek, Little Miami; on Mad river, particularly in the vicinity of the mouth of Buck creek, where Mr. Robert Renick resided, (now Springfield) It was not until the year 1807, that I could form the least conjecture what could be the cause of producing this milk sickness, or puking complaint. But some time during this year Mr. Renick found some of his cattle afflicted with the *trembles,* as it is called. He kept up the sick cattle, and by administering to each a heavy draught of whiskey, they recovered. He then turned out the well cattle, and followed them into the range, to discover, if he could, the cause. The cattle took their usual round, and Mr. R. followed them; it being the fall season of the year, (the usual period when cattle take the trembles;) Mr. R. discovered his cattle feeding very greedily on a poison vine which grows very plentifully on shady, wet and marshy ground: the result was, his other cattle took the trembles also, and he had to doctor them in like manner.

From the above period to the present time, I have kept my attention fixed on the above circumstance, and have examined and inquired to find out the cause, from Ohio, through Indiana, Illinois and Missouri; and often been led to conclude that it was a *weed,* at other times *stagnant water* impregnated with arsenic, again a small *running vine:* but recent circumstances have at length fully confirmed me in the belief that Mr. Renick made a correct discovery.

This complaint in many parts of the west has at times been truly afflicting. It has been communicated to adults by means of the beef, the milk, and the butter; and on some occasions has swept away almost a whole family of childern, and sometimes parents also, who have used, perhaps on many occasions from necessity, a milk diet.—When the cattle have died with the trembles, the hogs that have ate the flesh died in like manner, and the dogs, after eating of the flesh of the cattle or hogs, have died also.

This poison vine grows up about knee or waist high, stubby, and bushy on the top; the leaves resemble very much the poison vine which frequently ascends the trees, (not the creeping poison vine,) and may be of the same species as the former. It is so well known by our western settlers that any further description is unnecessary. It is frequently found in marshes, deep hollows of hills, and on wet lands.

During the last severe winter, Mr. Horrel, a highly respectable citizen of our neighboring county, (Clark,) and his neighbor, Col. Harrod, formerly from Kentucky, both of whom are intelligent men, and reside in the vicinity of Charleston, on the head of the little Miami, where the trembles and the milk sickness have prevailed for many years; both of the above gentlemen vouched for the following fact:—That during the long continuance of the snow, about thirty cattle were in a lot inclosed where this poison vine was raised above the snow; and although they were well fed, they chewed the stalks on the vine and took the trembles, and most of them died. Those cattle put into an adjoining field, and fed and drank at the same well or pool, were not at all affected, though fed on the same food. On Darby creek or its waters, I was informed on yesterday, by an intelligent person, that there was a similar case occurred.

Thus it is, after many years conjecture, I have all my doubts on this subject entirely removed; as I have also learned it to be a fact, though I have not yet tried the experiment, that the juice of this poison vine, when administered to cats and dogs in milk, produces the same results as though it were the milk or flesh of a poisoned animal.

I am, sir, very respectfully, your ob't serv't and subscriber, Th. S. Hinde.

Urbana, June 27th, 1831.

N. B. I have communicated the above facts for publication, and hope all the western editors will give it an insertion *pro bono publico.* I shall be much gratified if it elicits such remarks as may lead to beneficial results.—Surely, if my position be correct, this poison vine is very easily eradicated and destroyed from every neighborhood—for it appears to propagate or spring up from roots only; it does not bear seed. T. S. H.

(From the Fredericktown Herald.)

STEAM BOATS, ENGINES, &c.

The following remarks of our friend *Lewis Wernwag,* Esq, on the causes and means of preventing explosions of steam boat boilers, are well worthy of attention. They are rational and plain, being founded upon a practical knowledge of mechanics, with the laws of which few persons are better acquainted than Mr. W.

Mr. Niles:—The number of accidents that have happened to steam boats, by the explosion of boilers and running afoul of steam boats and other vessels by night, have caused me to meditate seriously upon the probable cause. I may, perhaps, be mistaken, although I am no stranger to the nature and power of steam—but the few remarks that I shall offer upon this subject, I sincerely hope may have a tendency to lead to something that will realize a preventive. My ideas are very simple upon the subject. In the first place, when the boat stops to take in wood, or to convey passengers to or from the boat, they of course let off the steam, and the machinery standing still prevents the force or injection pump from raising and forcing a sufficient supply of water into the boiler, and the brick work which supports the boiler, is generally carried one or two inches above the water in the boiler. The water becoming exhausted, the boiler between the brick work and the water, becomes in a manner red hot; therefore, when the engine is again put in operation, it furnishes a fresh supply of water, which eventually must raise the water in the boiler, and that body of water coming in contact with the red hot boiler, causes an instantaneous overplus of steam, which, in my serious and candid opinion, is the cause of the sudden explosion.

I shall however endeavor to throw a little more light on the subject, so as to enable you to form a more correct opinion of my statement. Capt. Wm. Virdin of the steam boat Governor Wolcott, that plys between Baltimore and Port Deposit, mentioned a circumstance to me that came under his notice, while proceeding between the above places, as follows: he discovered that the boiler had an overcharge of steam, by the incessant blowing and hissing noise that it made; and being very much alarmed, he immediately examined the machinery, and found that there was a deficiency of water in the boiler, the cause of which he soon discovered to be owing to the injection pump being stopped up with grass, so much so as to be entirely unfit to force a regular supply of water into the boiler. It took him a considerable length of time to extricate the grass from the pump, and in the mean time the fire died away; but providing the pump could have been rid of the grass, and the engine could have forced a regular supply of water into the boiler, it would inevitably have bursted. No doubt you are aware, that our friend Perkins' principle is by converting water instantaneously into steam, by his red hot engenderer, &c.

In the second place,—respecting the steam boats running afoul of each other at night—for a preventive, I would recommend a simple piece of machinery attached to the engine, so that every stroke of the engine should raise a hammer, and strike the bell which is generally placed near the moving power—perhaps the noise might annoy the passengers, but the bell should only be used when actually necessary. I shall make one more remark—upon the rolling and shifting of steam boats—for instance, the boat is lying still at any wharf or landing—and not letting off the steam instantly. I'll admit the steam may be let off, but the heat of the fire will not abate, and of course the water in the boiler must waste, at least one inch, by the loss of the steam which is let off—and for instance, rolling a hogshead of sugar, whiskey, or some other heavy part of the lading to one side of the boat must keel over at least two inches—of course the water must come to a level in the boiler, and as I have stated above, this water must be converted into steam instantly, and this steam must have vent; therefore, in order to do away this, I would recommend the engine to be made so as to be thrown out of gear, and let the engine have its motion, and by this means the boiler would receive its regular supply of water and the machinery all acting in unison, could not fail to prevent the explosion of so many valuable engines and the consequent loss of lives.

Your friend, L. Wernwag.

POLITENESS IN CHILDREN.

In politeness as in many other things connected with the formation of character, people in general begin outside, when they should begin inside; instead of beginning with the heart, and trusting that to form manners, they begin with the manners, and trust the heart to change influences. *The golden rule* contains the very life and soul of politeness. Children may be taught to make a graceful courtesy or a gentlemanly bow—but unless they have likewise been taught to abhor what was selfish, and always prefer another's comfort and pleasure to their own, their politeness will be entirely artificial, and used only when it is their interest to use it. On the other hand, a truly benevolent kind-hearted person, will always be distinguished for what is called "native politeness," though entirely ignorant of the conventional forms of society.

I by no means think graceful manners of small importance. They are the outward form of refinement in the mind, and good affections in the heart; and as such must be lovely. But when the form exists without the vital principle within, it is as cold and lifeless as flowers carved in marble.

Politeness either of feeling or of manner, can never be taught by set maxims. Every-day influence, so unceremoniously exerted, is all important in forming the character of children; and in nothing more important than in their manners. If you are habitually polite, they will become so, by the mere force of imitation, without any specific direction on the subject. Your manners at home should always be such as you wish your family to have in company. Politeness will then be natural to them; they will possess it without thinking about it. But when certain outward observances are urged in words as important only because they make us pleasing, they assume an undue importance, and the unworthiness of the motive fosters selfishness. Besides, if our own manners are not habitually consistent with the rules we give, they will be of little avail: they will, in all probability, be misunderstood, and will certainly be forgotten. I at this moment recollect an anecdote, which plainly shows that politeness cannot be shuffled on at a moment's warning, like a garment long out of use. A worthy but somewhat vulgar woman, residing in a secluded village, expected a visit from strangers of some distinction. On the spur of the occasion, she called her children together and said, "after I have dressed you up, you must sit very still, till the company comes; and then you must be sure to get up and make your bows and courtesies; and you must mind and say, "yes, ma'am," and "no ma'am"—"yes, sir," and "no, sir, I thank you." The visitors arrived—and the children, seated together like "four-and-twenty little dogs all in a row," uprose at once, bobbed their bows and courtesies, and jabbered over "yes, ma'am, no, ma'am, yes sir, no sir, I thank you. There—mother, we've done it!"

A cow which had been missed by her owner, in Boston, twenty-five days, was found in a barn not in use, in that neighborhood. She had nothing to eat in all that time, and was reduced to a skeleton. It is stated that when she strayed, she was supposed to weigh over 900 lbs. and when recovered that she weighed only between 2 and 300.

THE FARMER.

Baltimore, Friday, August 12, 1831.

Turnip Rooted Cabbage, (*Kohl rab.*) This is another excellent new vegetable, or rather one which is scarcely known to the public. It seems to be a hybrid between the cabbage and turnip, partaking somewhat of the character of each. It is in high esteem with the Germans, from whom it has been obtained. The plants are raised and transplanted in the manner of cabbages, a close resemblance to which it bears until about the time we should expect it to head, when a turnip begins to form at the top of the root, and rapidly increases to the size of a large turnip, when it is fit for use. It is cooked in the same way as turnips, either in soups or boiled as a common vegetable. It is extremely hard, and brittle—hence the name of *glass* kohl rab,—and requires to be boiled double the length of time that turnips require. The flavor is very much that of the *heart* of the cabbage stalk inside the head. The Editor of the Farmer has three kinds in his garden, the purple, the purple glass and the green glass kohl rab. It is really worthy of universal cultivation.

Aracacha and Quinoa.—The importance of the introduction of these new and valuable vegetables, will be deemed a sufficient excuse for the frequent mention of their progress, in the Farmer. The aracacha continues to thrive most luxuriantly, and at present is one of the most flourishing vegetables in the Editor's grounds. It has withstood all the varieties and excesses of the season without detriment, and is not surpassed in hardiness, so far, by any other vegetable. The root is growing and the offsets for another year's planting are forming in great numbers. The prospect is, that it can be cultivated with much more facility in this climate than the sweet potato.

The Quinoa, or Peruvian rice, is just out of flower, and is thickly set with seed, so that unless some unforeseen injurious effect of the remainder of the season should occur, the prospect is very fair that it will be perfectly adapted to our climate and become an important addition to our grains. We shall take care to advise our readers of the result of this experiment, whatever it may be.

Okra.—This is one of the most excellent of our garden vegetables, and yet it is almost entirely neglected in Baltimore. In Louisiana, and, indeed, in all the southern states, a dinner is scarcely considered complete without it, in some shape or other. Among the poor of the south it is considered one of their greatest blessings. It is considered not only delicious but very nutritive and wholesome. It is mostly used in soups, and, combined with tomatoes and the usual condiments, in a dish called *Gumbo*, a recipe for making which will be found in the American Farmer, volume 12, page 39, from the pen of our excellent housewife correspondent "Cousin Tabitha." We hope our citizens will give Okra a trial—for it is equally with tomatoes and egg plants worthy of their favor. We saw it selling in our market, (or rather *offered*, for we saw no one buying it,) at two cents a dozen a few days since—were it not of such easy cultivation and so very productive, the time would soon come when it would readily command six times the price.

Since the above was prepared, the Southern Agriculturist for August, has come to hand with the following recipe for making okra soup, by Mr. Legare, the accomplished editor of that work.

OKRA SOUP.

We have seldom met with this most excellent soup out of the vicinity of Charleston, and we believe a knowledge of the proper mode of cooking, will render it a favourite wherever it can be cultivated. We strongly recommend it, as being most excellent and nutricious:

The pods are of proper size when two or three inches long, but may be used as long as they remain tender, which is judged of by their brittleness—if good (that is fit for use) they will snap asunder at the ends, but if they merely bend, they are too old, have become woody and must be rejected, for a few of such pods will spoil a dish of soup. I will now proceed to give you directions for making the soup. I have taken definite quantities, so that the proper portions of each may be clearly understood by you, smaller quantities may be used, but the proportions ought to be observed, as well as the length of time for boiling.

Take one peck of okra pods, which must be very tender, and of which you will judge by the rule already given, cut them across into very thin slices, not exceeding 1-8 of an inch in thickness, but as much thinner as possible as the operation is accelerated by their thinness. To this quantity of okra add about one-third of a peck of tomatoes which are first pealed and cut into pieces. This quantity can be either increased or diminished, as may suit the taste of those for whom it is intended. A coarse piece of beef (a shin is generally made use of) is placed into a digester with about two and a half gallons of water, and a very small quantity of salt It is permitted to boil for a few moments, when the scum is taken off and the okra and tomatoes thrown in. These are all the ingredients absolutely necessary and the soup made is remarkably fine; we, however, usually add some corn, cut off from the tender roasting ears, (the grains from three ears will be enough for the above quantity)—we sometimes add about a half pint of Lima or Civie beans—both of these improve the soup, but not so much as to make them indispensable, so far from it that few add them. The most material thing to be attended to is the boiling and the excellency of the soup depends almost entirely on this being faithfully done, for if it be not enough, however well the ingredients may have been selected, the soup will be very inferior and give little idea of the delightful flavour it possesses, when properly done. I have already directed that the ingredients be placed in a digester. This is decidedly the best vessel for boiling this or any other soup in, but should there be no digester, then an earthenware pot should be preferred, but on no account make use of an iron one, as it would turn the whole soup perfectly black. The proper colour being green, coloured with the rich yellow of the tomatoes. The time which is usually occupied in boiling okra soup, is *five hours*—we put it on at 9 A. M. and take it off about 2 P. M. during the whole of which time it is kept briskly boiling, the cook at the same time stiring it frequently and mashing the different ingredients. By the time it is taken off it will be reduced to about one-half; but as on the operation of the boiling being well and faithfully executed depends its goodness (as I have already remarked) I will state the criterion by which this is judged of. The meat separates entirely from the bone, being "done to rags," the whole appears as one homogeneous mass in which none of the ingredients are seen distinct—the object of this long boiling being thus to incorporate them—its consistency should be about that of thick porridge.

The grass which accompanied the following letter is of the same kind of that described in our last, and to which the present letter alludes. We have no doubt of the great value of this grass, and hope to be able to get some more definite information respecting it.

Mr. Smith: *Gettysburg*, *August* 6, 1831.

Sir,—In the last Farmer I have observed a communication signed J. P. Gilpin, respecting a certain grass, and of which you wish further information. I have enclosed you a few stalks, some of which are of the third crop of this season. I have had it on my farm for the last seven years, and find it the best grass for soiling that I have tried; it is first green in the spring, and last in the fall. If this I send you should be the same that J. P. G. describes, it is what I call *Paraqua grass,* I am told the seed was brought to this county some 10 or 15 years since, and originally from the river La Plata—I have never cultivated it; it grows best in rich low land and continues where sown.

N. B. It is good for hay, as well as pasture—my own opinion is, that it is a native grass, and if cultivated would be preferable to orchard or herds-grass for all purposes. I had a piece of land bearing this grass ploughed; the roots were completely matted, and will answer the same purpose for manure that clover roots do. Next season I shall preserve the seed and have it tried on upland.

A correspondent requests further information on the subject of hillside ditching, a mode recently adopted by Mr. Skipwith of Virginia. Will Mr. S. favor us with an account of his system, with the result as proved by his experience?

Further information is also solicited on the subject of horizontal ploughing for corn and the management of it, as that mode of ploughing is but little attended to. Corn land is generally cultivated by cross ploughing in squares of about four feet, no matter what the nature of the land may be, level or hilly. Our correspondent very justly thinks we stand in need of some better plan, and we hope those who have tried horizontal ploughing will give us a full and detailed account of the method. We would particularly solicit the attention of "De Rustica" to this subject.

Prices Current in New York, August 6.

Beeswax, yellow 19 a 20. *Cotton*, New Orleans .10 a .12¼; Upland, .7½ a .10; Alabama, .8 a 12. *Cotton Bagging*, Hemp, yd. 15 a 20; Flax 13 a 14½; *Flax*, American, 7 a 8.——*Flaxseed*, 7 bush. clean .—— a .—— *Flour*, N. York, bbl. 4.87 a 5.00; Canal, 5.00 a 5.50; Balt. Hwd. st. 5.25 a 5.37; Rh'd. city mills —— a —— country, 4.75 a 5.00; Alexand'a, 4.75 a 5.12; Fredericksburg 4.62 a ——; Petersg. 4.62 a 4.75; Rye Flour, 3.50 a 3.62; Indian Meal, per bbl. 3.37 a 3.50; per hhd. 17.00 a 17.25; *Grain*, Wheat, North, 1.00 a 1.06; Vir. 1.00 a 1.03; Rye, North, 70 a —; Corn, Yel. Nor. 72 a 73; Barley, — a —; Oats, South and North, .32 a .36; Peas, white, dry, 7 bu. 5. Beans, 7 bu. 7.00 a 8.00. *Provisions*, Beef, mess 8.50 a 9.00; prime 5.50 a 5.75; cargo 4.62½ a 5.00; Lard, 8½ a .11; Pork, mess, bbl. 14.00 a 14.75; prime 10.00 a 11.25.

AGRICULTURAL BOOKS.

A general assortment of Agricultural Books kept constantly for sale at this office.

NEW CHINESE MULBERRY,

(*Morus Multicaulis.*)

The subscriber will have for sale the ensuing autumn about 200 of this new and excellent variety of mulberry for feeding silkworms, *price* $1 *each.*

In relation to the qualities of the morus multicaulis, he deems it necessary only to state, that the leaves on his young trees this summer are from 5 to 12 inches in length, and from 6 to 10 inches in width—when full grown generally of the latter size; that the worms are more fond of this leaf than of the Italian white mulberry, and that he believes one pound of it contains as much nourishment as a pound and a half of the Italian; and that it is decidedly the easiest tree to propagate by layers of any he is acquainted with—having laid down the whole of his this summer, and many of them the second time, without in a single instance failing to produce a tree from every bud and branch.

GIDEON B. SMITH,
PG *Office American Farmer.*

ORCHARD GRASS SEED WANTED.

WANTED IMMEDIATELY by the subscriber, a few hundred bushels of Orchard Grass SEED of this year's growth, and free from noxious seeds, for which cash will be paid on delivery. Who has on hand his usual supply of Agricultural Implements, such as superior Ploughs, Wheat Fans, Cultivators, Harrows, his patent cylindrical Straw Cutter, superior Rag Cutters for paper making, Dutch Cutting Boxes, Scythes, Hay and Manure Forks, Hoes, Brown's vertical Wool Spinners, Wire Safes, and Wove Wire, &c. &c.

Also a general assortment of the Messrs. Landreth's Garden Seeds, for sale, and will furnish fruit and ornamental TREES from their nursery to order.

And likewise keeps a general assortment of Grass Seeds for sale, of such as can be depended on.

J. S. EASTMAN,
August 5. No. 36, West Pratt street.

WOOL WAREHOUSE.

LYMAN REED,

Commission Merchant, No. 195 *Baltimore street,*

Devotes particular attention to the sale of WOOL. Any consignments of the article forwarded to him for sale, can be disposed of immediately for CASH, at the highest market price.

CASH, and a fair price, will be paid for a few thousand pounds of *good wool*, (if offered immediately,) to supply orders now on hand.

Refer to Messrs. Cobb, Wyman & Co. Baltimore.

BALTIMORE PRICES CURRENT.

Baltimore Market.—We have to notice a still further advance in the price of flour, owing to the continued scarcity. Yesterday $5.50 was paying for Howard street flour from the wagons. We have heard of no sales from stores above $5.50, but the asking price was $5.62½ last evening. In grain and other articles of produce there is no change.

Tobacco.—Seconds, as in quality, 3.00 a 5.00; do ground leaf, 5.00 a 9.00.—Crop, common, 3.50 a 4.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 10.00; yellow and red, 8.00 a 14.00; yellow, 14.00 a 16.00.—Fine yellow, 16.00 a 20.00.—Virginia, 4.00 a 5.00.—Rappahannock, 3.00 a 4.00——Kentucky, 3.50 a 8.00. The inspections of the week comprise 506 hhds. Md.; 15 hhds. Ohio; 27 hhds. Kentucky; and 12 hhds. Penn.—total 560 hhds.

Flour—best white wheat family, $6.00 *a* 6.50—super. Howard-st. fresh $5.50; city mills, fresh, 5.25 5.50; Susq.— *a* —; Corn Meal, bbl. 2.25; Grain, Md. red wheat, 90 *a* 1.08; white do. 1.10 *a* 1.20, Susq. 1.05 *a* 1.09-Corn, white, 63 *a* 65—yellow 63 *a* 64 Rye, 60 *a* 62. Oats, .28 *a* 30. Beans, 75 *a* 80--Peas, 65 *a* 70—Cloverseed —— *a* ——Timothy, 2.00 *a* 2.50—Orchard Grass 1.25 *a* 1.75—Tall Meadow Oat Grass 2.75--Herd's, 50 *a* 75—Lucerne 30 *a* 37½ lb.——Barley, ——Flaxseed —— *a* ——Cotton, Va. 9 *a* 9½——Louisiana 11 *a* 13 —Alab. 9½ *a*. 11—Tenn.. 9 *a*. 10——N. Car.. 9 *a* .9½——Upland 8 *a* 9½-Whiskey, hhds. 1st p. 33 *a* ——; in bbls 34 *a* 35——Wool, *Washed*, Prime or Saxony Fleece 58 *a* 67; American Full Blood, 52 *a* 58; three quarters do. 45 *a* 52; half do. 40 *a* 45; quarter and common do. 35 *a* 40. *Unwashed*, Prime or Saxony Fleece, 36 *a* 40; American Full Blood, 34 *a* 36; three quarters do. 32 *a* 34; half do. 30 *a* 32; quarter and common, 27 *a* 30——Hemp Russia ton, $255 *a* —; Country, dew-rotted, 5½ *a* 7c. lb. water-rotted, 7 *a* 9c.—Feathers, 35 *a* 36; Plaster Paris per ton, —— *a* 4.00, ground, 1.37½ *a* —— bbl. Iron, gray pig for foundries per ton 33.00 *a* ——; high pig for forges, per ton, 28.00 *a* 30.00; bar Sus. per ton, 72.50 a 80.00.—Prime Beef on the hoof, 5.00 *a* 5.25—Oak wood, 3.00 *a* 3.25--Hickory, 4.25 *a* 4.50—Pine 2.00 *a* 2.25.

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EDITED BY GIDEON B. SMITH.
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TERMS.

1. Price five dollars per annum, due at the middle of each year of subscription.
2. Subscriptions are in all cases charged *by the year*, and never for a shorter term.
3. When once sent to a subscriber, the paper will not be discontinued without his special order; and then not till the end of the year of his subscription that shall be current at the time of receiving such order; except at the discretion of the publishers.
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6. All letters concerning this paper must be directed to the publishers. They must be free of postage, except communications intended for publication, and letters containing money.

☞ All Postmasters are requested to act as agents for the Farmer; they are authorised to retain $1 for each new subscriber, and 10 per cent. on *all other* collections.

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AGRICULTURE.

MANAGEMENT OF FARMS IN ENGLAND.

[The Society for the diffusion of useful knowledge in England have published a series of papers in their excellent Library, devoted to the interest of farmers. Among them we find some reports of the management of select farms, and purpose copying them into the American Farmer. There are some passages which we should omit were it not that they are continually referred to in the body of the report, such as the use of chalk, &c. of which we have none in this country. It is necessary also to remark, that the climate and seasons in England are very different from those in the United States, therefore proper allowance must be made by the American farmer. We shall begin with the first Report and continue them as occasion may offer in the absence of more acceptable matter.]

(From the Library of Useful Knowledge.)

REPORTS OF SELECT FARMS, No. 1.

By Henry Gawler, Esq. of North-shire.

"*A system* closely pursued, although it may not in all its parts be the best that could be devised, is attended with innumerable advantages. The conductor of the business, in this case, can never be under any dilemma in his proceedings. The overseers, and even the labourers, know what is to be done, and what they are capable of doing, in ordinary seasons. The force to be employed may be in due proportion to the work which is to be performed, and a reasonable and tolerably accurate estimate may be made of the product. But when no plan is fixed, when directions flow from day to day, the business becomes a mere chaos, frequently shifting, and sometimes at a stand, for want of knowing what to do, or the manner of doing it. Thus is occasioned a waste of time, which is of more importance than is generally imagined.

"Nothing can so effectually obviate the evil, as an established *system*, made known to all who are actors in it, that all may be enabled thereby to do their parts to advantage. This gives ease to the principal conductor of the business, and is more satisfactory to the persons who immediately overlook it, less harrassing to the labourers, as well as more beneficial to the employer."—*American Almanac for* 1830—*Washington's Agricultural Notes.*

INTRODUCTION.

The general rules and maxims which writers on agriculture have attempted to establish, are found so liable to exceptions in their application, that they are of little service to the generality of farmers, and are founded on a refinement of practice not calculated for persons whose education must necessarily be limited. Many of these works presume the readers to be acquainted with the elements of chemistry, with the component parts of earths, and a variety of subjects which cannot be understood by persons who are, in general, strangers to the technical expressions by which such information must be conveyed. But, even if they were furnished by a competence of instruction for such purpose, it is doubtful whether much benefit would be derived from it. The most experienced farmers confess, that the powers and capacity of a soil for production—the best mode of working it, and extracting the greatest return at the least expense—can only be ascertained by actual trial for a series of years; and that the external appearance of the land, or even of the growing crops, cannot be relied upon as sufficient indications of its value. In general, farms of any extent contain varieties of soil, frequently intermixed with each other so irregularly, that it is impossible to class them in a manner which any theory respecting their distinct qualities would recommend as most advantageous for their management. In one field are often to be found clay, gravel, and chalk, strong and light sands, arranged in patches, which do not admit of any separation for practical purposes; and such fields must receive, in all their parts, nearly an uniform mode of culture, the same number of ploughings, the same quantity of manure, and the same rotation of crops.

From these circumstances it does not appear probable that any great nicety in the practice of agriculture, founded on chemical tests or upon theoretical doctrines, can be generally introduced.

This difficulty is increased by the disposition of labourers upon a farm to resist all innovation in their usual routine of practice. A change of system requires a corresponding change in their habits, which are quite mechanical, and in the commencement supposes, in those who are to be its instruments, some exertion of thought and attention to which they are unaccustomed. The labourers have no obvious personal interest in the success of any experiment; they foresee no increase of wages, of ease, or comfort; and, without being in any manner worse men than the rest of their species, they remain stationary in their acquirements, because they have no visible or palpable inducement to urge them on to improvement. The habits and practice of the small farmer and peasantry in general, if they be investigated, will be found to originate in indolence of mind and body. They adopt such expedients as require the least thought, attention, and labour, to effect their purpose. A comparison of the effects of this system with the result of a change, and the calculation of the advantages to be derived from increased activity and expense, usually exceeds their powers of comprehension.

For some few years previous to the commencement of the present century, and for many years after it began, corn* bore a price, and capital applied in farming produced a profit, which tempted persons of good education to engage in the employment; and its theory and practice were examined with the industry and acuteness which the enlivening prospect of wealth and success is sure to excite. The great causes of this gradual, and then increasing rise in the price of corn, was not at that period generally known. They are now admitted to have been the combined effect of a monopoly of manufactures and commerce enjoyed by this country, a depreciation of the currency, and a vast increase of the public expenditure, the means of which were furnished by loans and taxation; but the landlords for a length of time attributed this change to circumstances which they held to be accidental and occasional, and were not disposed to consider it as a ground for the augmentation of their rents, and many were bound by the terms of leases which had been previously granted.

It was at this period that the press teemed with books on agriculture; and farming was represented, during this brilliant era, as a science with which our ancestors were little acquainted. The rocks of Scotland, and the chalks of England, were presumed to be barren, because we were ignorant in what manner they should be cultivated. The mines of Mexico and Peru have hardly been described in more seducing language; and it was only because the subjects for this picture were too close for inspection to admit of the delusion being complete, that great fortunes were not made at the expense of misguided individuals.

From this dream the people of this country are hardly yet awakened; but farmers in general are fast returning to their occupation as a trade, in which, for the benefit of the country at large, the individuals who are engaged in it must be exposed to a severe competition with each other, be subjected to a rigid economy in the conduct of the details, and to a forbearance and privation which, under ordinary circumstances, is not, perhaps, in a similar degree exacted from other labouring classes. The trade of a farmer rarely affords the means of accumulating a fortune. The eye of a master is required to conduct the details with advantage, and his power of personal inspection must be restricted to a few hundred acres. The produce is limited; no extent of connexion can increase his customers; no skill or activity can augment indefinitely the articles he has to sell.

The science of agriculture has undoubtedly been greatly improved within the last thirty years, in all its departments, and further progress may be made in it. But the impulse it received from high prices no longer exists, and whatever advance is now made will be gradual and slow. It is probable, however, that the limit of the highest state of cultivation is not so far distant as we may suppose it to be in arts and manufactures in which new combinations of the materials are employed, and new machinery is furnishing constantly greater facilities in operation, and some addition to the former excellence of the articles produced. But in articles which are the produce of agriculture, human science and industry have not the same advantages. Climate and soil are the main instruments by which all vegetation is raised. Man has no control over the first, and much less over the last than is generally supposed. There is in every soil a certain natural power or strength of production, technically termed by the farmer, the staple of the land, which evidently forms the boundary that limits the benefit of attempted improvement. The soil may be combined with ingredients which may render it unhealthy to vegetation, and manures and cultivation may neutralize or destroy their effect. Where such ingredients do not exist, manures may stimulate the land to act upon the crops to a degree it would not have done without their application; but experience teaches beyond all doubt, that working and manures may be applied to an extent that may be injurious, and when they are employed beyond the measure which the state and strength of the land require, the crops of corn are not increased in quantity, and do not improve in quality. The observation is peculiarly true as to the thin light soils of the district hereinafter described, which lie upon beds of coarse calcareous rubble—the stratum interposed between the surface soil and the chalk. The depth of ploughing in them is necessarily confined, and new soil cannot be gradually turned up and incorporated with that which was previously cultivated.

It requires caution in recommending new experiments to farmers; they should try them upon a small scale, unless they have succeeded in circumstances similar to those under which they are proposed to be introduced. The practice of every district is followed by successive generations, without any investigation as to its causes and merits, but in general, the outline and main body of the system which has been adopted, originates in the nature of the soil, and in local circumstances. It admits of little change, except in its better execution, in the improvement of machinery, in the breeding of stock, and treatment of their diseases, and in a more convenient distribution of the fields and farm-buildings.

The instruction adapted for the state of information and habits of the generality of farmers, will be best conveyed by detailing the management of a farm comprising land of various qualities, but where none is much above or below a medium between the best and the worst, and where the management is carried on by the usual system of broad-cast sowing—without any very peculiar selection or refinement in the implements and machinery.

DESCRIPTION OF THE FARM.

On a farm situate in the north of Hampshire, consisting of about two hundred and thirty acres, the writer, assisted by a bailiff,* has succeeded in deriving a net average profit from its produce, much more considerable than any rent he could have obtained from a tenant, and has had, besides, the advantage of keeping the property in a state of neatness, the fences in a state of repair, and the land in progressive improvement, uninjured by exhaustion—benefits which, probably, are not to be derived, or expected, from any hands but those of a proprietor.

---

* Wheat as well as all other grain, is called *corn* in England.

* Overseer.

The land of this farm contains three sorts of soil:—

1st. Clay of a very binding nature, mixed with gravel.

2d. Gravel mixed in many places with a much less quantity of clay than the former contains, and occasionally a proportion of darkish mould, probably the produce of decayed vegetable matter.

3d. A light-coloured soil of a loose texture, from four to seven inches deep, covering the rubble which lies on the top of the bed of chalk, the substratum on which the whole land of this country ultimately rests.

The farm consists of nearly equal quantities of each soil, sometimes distinctly separated from each other to a considerable extent, but often so intermixed that no division for any practical purpose can be effected. Whenever such division is practicable, it has been made, as undoubtedly each quality of soil requires a different rotation of crops, and different quantities, and, if they can be had, different qualities of manure.

The general aspect of the farm inclines to the south, but about sixty acres are exposed to the east and north. The whole is comprised in one fence, and is intersected and bounded by good roads.

The buildings are inconveniently disposed. They lie at one end of the farm—a situation, for obvious reasons, most objectionable.

There is no town in the neighbourhood from which any considerable supply of manure can be procured; and the little that can be obtained is purchased at an expense which is hardly compensated by the increase of produce, with the exception of wood, coal, and peat ashes. The two first are collected from the houses and cottages, and the latter is brought, by means of a canal, from more distant parts.

Manure, therefore, can only be obtained from the common and usual sources of the folding of sheep, the stable, and the farm-yard, with such occasional addition of mould and decayed vegetable matter as can be collected on all farms.

Use of Chalk.—The surface-soil of this part of the country rests upon a bed of chalk, which frequently in spots is found to be of soft and unctuous nature, and crumbles into very small fragments and powder by the effects of rain and frost. Whenever the chalk can be obtained with these qualities, it contributes essentially to subdue the tenacity of the hard and compact clay, and to render it more ductile and yielding to the operations of the plough and harrow. When this chalk has been laid on the gravel, mixed with but little clay, it has been found eminently useful, by its quality of retaining moisture, and perhaps by chemical changes it may produce upon some ingredients contained in the soil which are unfavourable to vegetation. It is applied in a quantity sufficient to afford a covering of an inch or an inch and a half in thickness, and permitted to remain exposed until it is well pulverized by the effects of frost and rain. This sort of chalk has generally been selected, and carried in carts from the pit from which it has been dug during the hard frosts, when there is little other occupation for the men and horses, or in summer, when the land can bear the pressure of the loads. The common practice of digging pits upon the spot intended to be chalked, is objectionable; it defaces the surface of the ground by leaving permanent holes in places from which it was extracted, and, being thus taken without selection as to its quality, is frequently much less adapted to the purpose it is intended to answer.

The effect of laying this chalk upon the second sort of land, in which the gravel is intermixed with the small portion of clay, has been most remarkable, and in every instance where it has been tried, uniformly most beneficial. Previously to the application of the chalk, this part of the farm, although manured, folded abundantly; and trod well by sheep, to condense the soil, was extremely precarious in its produce, and the expense and care bestowed upon it were rarely compensated by a corresponding return. The wheat grew freely at first, and continued to bear a very favourable appearance until the spring, when the ground assumed a spongy, hollow texture, the plant acquired a dark brownish hue, died in considerable quantities, and the remainder produced at harvest from twelve to sixteen bushels per acre of light corn, with the straw invariably stunted and blighted. From the time the land was chalked in the manner I have before described, these unfavourable tendencies of the soil were corrected. The same land now produces from twenty-four to thirty bushels, of excellent quality; and in no instance has any recurrence of its former unhealthy condition been observed. The mischief was not confined to the wheat crop: the barley, oats, tares, and clover, suffered in the same proportion, and have equally derived benefit from the chalking.

The value of chalk, for the purposes I have mentioned, does not extend, on this farm, beyond the first and second qualities of land, the hard compact gravelly clay, and the gravel with the less proportion of clay: when applied to the third quality of soil, the light-coloured loam, its effects appeared to be injurious; probably this soil was already sufficiently mixed with it, which rendered the addition, if not detrimental, at least useless.

ROTATION OF CROPS.

The best soil on this farm is the compact gravelly clay. It is cultivated (except the course be interrupted by very unfavourable seasons) by the rotation of crops generally adopted by the best farmers in this part of the country:—1st, wheat; 2nd, turnips; 3rd, barley; 4th, clover and rye-grass. Occasionally, after two or three wet seasons, instead of sowing wheat on the clover lay, the land has been permitted to lie fallow the ensuing summer, has received three good ploughings, and the earth been well pulverized by repeated harrowing and rolling. The practice of fallowing lands of any quality has been objected to by many eminent agriculturists as unnecessary, and as not conferring any benefit proportioned to the loss of one season. It is a question which can be resolved only by the experience of a considerable length of time, and the calculation of the loss or profit cannot be very satisfactorily made. But the system, as applied to this sort of land upon the occasions to which I have referred, has certainly improved the succeeding crop, especially in its quality.

1. *Wheat.*—The wheat generally sown on the best land, and on that which is in high condition, are the white sorts; and of these sorts, the preference has been given to the velvet-husked. This wheat, when it enjoys the advantage of being sown on land in high condition, is equally productive with the brown, and sells from thirty to forty shillings per load higher. The straw is usually short, compared with that of other sorts, and therefore less liable to be beaten down in stormy seasons; and the fur upon the husk appears to afford considerable protection against the blight or mildew, one of the destructive scourges of our climate. This wheat should be cut as soon as the internal part of the grain is set, and when upon pressure it is found the milky fluid is absorbed. It will ripen quickly as it stands in the shock. When thus cut, the sample is always brighter, and clearer, and weighs heavier, than when it is suffered to remain longer in the ground. When the harvest is late, and those obvious causes of blight, the warm drizzling rains and morning fogs, are to be expected, the hazard of exposure to this mischief is diminished: a week is often of importance at this critical period; and by being in advance upon the general commencement of the harvest, labourers are more easily obtained, and the wheat secured by means of additional hands, which cannot afterwards be obtained.

On the second and third qualities of soil, this white wheat does not on an average succeed well. In favourable seasons, and when these portions of the soil have been in high condition, it has produced an ample return; but in the event of a dry, or very cold and wet summer, the crop, compared with that of the brown wheat, planted under the same circumstances, has been deficient, the ear imperfectly filled, and the grain meagre. The red-straw Lammas has been found the best adapted, on an average of years, to the two last qualities of soil. It appears to resist better the bad effects of unfavourable seasons; and, from the depth of its colour, it disguises better any injury it may have sustained.

Sowing.—From three to four bushels of wheat and from five to six bushels of barley, are sown to an acre. The wheat crop, upon an average of a number of years, has yielded twenty-six bushels per acre;—the barley crop, eight sacks[*] per acre. In the most favourable seasons, the average of the wheat has been rather more than thirty-six bushels per acre, and in the worst seasons, when wet and cold prevailed, as in 1828, seventeen bushels per acre.

Period of sowing.—In many parts of this district, upon very light land, the wheat is sown, if the season permits, as early as the end of August; but upon the farm now described, none is sown earlier than the last week in September, nor later, if it can be avoided, than the middle of November. If sown earlier than the first-mentioned period, it grows rank, and mats together in warm and long protracted autumns, and in this state it suffers from a succeeding alternation of frost and wet; if sown later than the last-mentioned period, especially on the second and third qualities of soil, it hardly shoots its roots to a sufficient depth to prevent them from being loosened, or partially exposed, and often, in considerable quantities, thrown entirely on the surface, by the swelling of the ground in frosty weather.

Tares.—The ground from which the wheat has been reaped is ploughed as soon after harvest as other works, indispensably necessary, will permit. A portion of it is sown with winter-tares, the latter end of September. This crop is of great value, if it be not injured; but it is so liable to be thinned by the alternation of warm days, and cold winds, and frosty nights in spring, that it cannot be relied on as a certain resource for stock. For this reason, the larger portion of land intended for tares is sown in February, March, and April, with the sort called the spring tares, mixed with a bushel of oats to an acre. They are evidently a different plant from the winter-tares, the leaf which first expands is different, the seed is larger, it grows with more luxuriance, and produces, in general, a heavier crop. Within these few years, a variety of the spring tare has been imported, probably from Holland, and sold in our markets under no fixed name. This seed is small, like the winter tare, and springs up with a similar leaf; but it throws out more numerous branches, and has a coarse and hardy appearance. The stem is shorter, and it preserves an erect position longer than the varieties in common use. It succeeded well on the second quality of land.

Tares afford a main supply of food for stock in the month of June, and part of July. If the crops be luxuriant, and the season wet, they should be cut with a scythe, and put into cages for the sheep. If, under such circumstances, this plan be not adopted, a third of the crop will be wasted.

The experiment of making tares into hay has been tried on this farm, but it cannot be recommended as a general practice. Wet is very injurious to them during the process, and, when made in the best seasons, they are by no means a favourite food with cattle. The sheep feed upon them in this state with reluctance.

2. *Turnips.* The remainder of the ground from which the wheat crop was taken, is sown in the

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[*] A sack contains three bushels.

spring, and during the succeeding summer, with turnips, of which a very considerable portion are Swedes;[*] the residue are the tankard, the globe, and towards the autumn, the green rounds. The Swedes, except in very unfavourable seasons, succeed well on the first and second qualities of soil; but on the third quality of soil, they rarely swell, and grow with the freedom which renders the interior of the bulb firm and mellow. They increase slowly on this last soil; the rind is thick, the external flesh is tough and fibrous, and betrays the same appearance of want of proper nourishment which all esculent vegetables exhibit, when planted in soils which are defective in fertility, or not congenial with the nature of the plant.

Drill Husbandry.—The system of drilling turnips has been tried on these soils, but the result has not been encouraging, and upon an average of years the broad-cast sown have the advantage. Two methods were followed—the one by depositing rotten manure in a furrow, covering it again with earth, and drilling the seed on the ridge—the common practice of the north: the other by drilling them in rows at two feet distance, when the ground was levelled and prepared as for broad-cast sowing. But both methods, on the first and second qualities of soil, are liable to nearly the same difficulties and objections. Notwithstanding all attempts to subdue wholly the tenacity of the hard gravelly clay by the means of chalking, it breaks up under the plough and horse-hose, in dry or very wet weather, in large clods or masses, which frequently bury the plants when small, or leave their roots exposed to the air. The resistance of the compact clay and stones in the first quality of soil, and of the stones in the second quality, disturbs both instruments in their operation to a degree sufficient to make it hazardous to approach very near the rows, and the plant loses the benefit of having the earth loosened about it—a process which tends so essentially to promote its growth. In a district, also, where the drill system is not generally adopted, the labourer who thins the plants with the hand hoe interposes his objections. He finds plants in rows more difficult to thin than the broad-cast: it requires a change in his mechanical exertion of limbs.

The advantage mainly derived from the drilling Swedes on ground levelled as for broad-cast sowing, consists in the means the system affords of covering them, before the approach of winter, with mould by the assistance of a small plough. This was usually effected in the middle of November, in time to prevent the rooks, larks, wood-pigeons, and game, from attacking them when their other accustomed food begins to fail. The larks, and perhaps other small birds, bore small deep holes, in which the water settles and rots the heart of the plant. Hares consume a portion of the bulb, but the remainder often continues sound. The Swedes are by this method preserved fresh and uninjured. They did not appear to suffer in any respect from the covering, and in the spring the rows are turned out by a plough as they are wanted for use. Upon land which permits the drilling of Swedes to be practised with advantage, this mode of preserving the bulb may be safely recommended. It probably has been adopted by other farmers occasionally; but examples of this plan, it is believed, rarely occur.

It is the common custom to permit the Swedes to sprout out in the spring for the feed of the lambs, but the bulb is thus materially injured. Each shoot supplies its growth by a mass of roots which strike into the bulb, and fill it with hard fibres. Its juices are drained, and it becomes impenetrable to the tender teeth of lambs, and is only destructible at the expense of the stronger teeth of the ewes.

As soon as the shoot has begun to spring with any luxuriance, the method has sometimes been adopted of pulling up the bulb, and leaving them spread about the ground for the use of the stock. In this state they become mellow, but remain firm and juicy often until the end of May, and beginning of June. When the season arrives for sowing with barley the ground on which they had grown, they were removed in carts to some grass lay, and there again spread out for the sheep.

After many years' experience, no crop has been found more useful on this farm than Swedes, and none which, on an average, affords a more secure and certain resource for stock. They are the favourite food of sheep, horses, cows, and pigs, by care they can be preserved far in the summer; and it is hoped it will not be thought disrespectful to the human species, when it is added that the Swedes compose a considerable part of the nutriment, from predilection and choice, of the young labourers, the boys who work upon the farm. They appear to agree well with the constitutions of persons blessed with such powerful and healthy digestion.

The other turnips are sown broad-cast, and managed in the usual method.

The Period of Sowing.—The value of all systems of farming must be determined by their effect on an average of a number of years. In some seasons it answers well to sow the turnips early, the Swedes as early as March, and the beginning of April, and the other turnips in April and May; but in this part of the country, the practice is not to be recommended as a system. During the cold weather of the early months, the plant springs and grows slowly; it assumes a stunted appearance, its tender leaves are long exposed to insects; a thickness at the top of tho root, partaking of a premature disposition to form a bulb, accompanied by a wrinkled rind, indicates a state of disease, from which no favourable circumstances will afterwards wholly recover it.

Towards the middle of June, the air and earth have been considerably warmed; the plant then springs and grows quick, escapes soon through its tender stages, and will generally produce a more abundant crop, and of far better quality, than when it has been crippled and stunted by unfavourable weather in the earlier season.

The turnips, in general, are consumed by the sheep on the ground upon which they grow. No inclemency of weather prevents this practice on the second and third qualities of land, and it is then beneficial by the treading and consequent condensing of the soil: on the first quality of land in a very wet season of long continuance, and when the ground is soaked with moisture, this practice may be injurious. In such cases, the land is rendered too tenacious by the pressure of the stock, and the health of the sheep might be impaired by laying on ground so saturated with water. They are then removed to a drier spot. But such instances rarely occur. The whole of the farm slopes to different aspects, and a continued drainage is thus effected, which assists materially the absorption by the earth, which is, in some degree, always taking place.

The whole farm may therefore be considered as a good turnip soil—a valuable quality in ground of medium worth. Upon such soils the turnip is the great instrument of improvement. No crop upon a given surface of such ground affords so abundant a bulk of food for sheep, and none contributes to produce more manure. The lighter lands are condensed by the treading of the stock, the stronger are in moderate weather kneaded into a consistence very favourable to wheat, and the ground is cleaned by the frequent hoeings which are indispensably necessary to promote the growth of the plant. Since the introduction of the turnip, in considerable quantities, in agriculture above a century ago, its use has been progressively extending, and has laid the foundation, on the lighter soils, of the excellent cultivation which now prevails. Fifty years ago this plant was little known in the district where the farm now described is situated. Within that period the crops are doubled. The stock of sheep on the same quantity of land is doubled, and their health is less precarious. Turnips afford a change of food; and for such change all animals have a strong desire; they are a resource of great importance when the hay is injured by wet seasons; and as wet seasons are favourable to turnips, it is a resource which rarely fails.

The common turnip continuus to be a wholesome and nutritious food until the very cold weather commences, towards the end of November, by which time either the nature of the turnip or the powers of digestion in the sheep appear to be affected; and so prejudicial upon this farm are they esteemed to be, at this season, to ewes heavy in lamb, by creating wind and inflating the stomach and bowels, that the quantity given is very cautiously allotted. The best corrective is an allowance of hay, which is often too long delayed from mistaken motives of economy. The ewes suffer frequently materially from this neglect, and the strength and health of the whole stock are impaired. It has been thought, that by an allowance of a portion of Swedes, together with the common turnip, the hay might be omitted with less danger. The Swedes, though ranked usually under the common term of turnip, are a distinct species of plants, in which the elements which constitute nutriment exist in much greater abundance. Upon this farm, from these motives, the use of Swedes often commences early in the autumn. They are scarcely ripe until the middle of November, and continue to grow and swell until that period. But in their imperfect state, they supply far more nourishment than the common turnip, and prepare the stock for sale at the fairs in October and November in a manner not easily accomplished without their assistance.

3. *Barley.*—The barley-crop is sown after the turnips. The land requires more or less ploughing, according to the quality of the soil, and the state in which it is found, after the season for the working of it commences. The compact, gravelly clay, if the turnips have been fed off during wet weather, breaks up in large clods, and requires to be reduced by the roller; and at least a second ploughing given before the barley can be safely sown, and if clover be sown with it, it renders this process indispensable. On the second and third qualities of land, one ploughing is quite sufficient. The sowing commences early in March, and continues until May, by which period the Swedes have been removed from the turnip land, if any remain, to some grass-lay. The time of sowing, when on compact, gravelly clay, most, in some measure, depend on the season. It cannot be worked in very rainy weather. If any very hard storms of rain succeed the sowing, the surface runs together so closely, that the air is prevented having access to the seed, and its vegetation is obstructed.

The two other qualities of soil are not exposed to this disadvantage.

It is customary in many counties, on light soils, to sow barley in the month of February. This practice is followed by many farmers in this district.

In barley sowing, as in sowing all other crops, it is always to be considered what system succeeds the best, upon an average of several years; and beyond a dispute, upon an average of years, the early sown barley produces the largest crops, and the finest grain. Until the end of March, the sowing may be considered to be early; and it is from the sowing made during that month, that the best barley on this farm has been obtained.

The plant which springs from the February sowing is apt to be injured by the frosty nights in March. Upon the compact clay, it turns yellow from this cause, and rarely afterwards grows with the same luxuriance and vigour, as the plant which has escaped this danger.

The barley grown on the compact clay is of a coarser quality than that which is produced from the soils of the second and third qualities, but the crop is more abundant, and thus in some measure compensates for the inferiority. That which is produced on the light chalk soils of this district is well calculated for malting; the skin is thin, and its colour rich, but light; but it never equals, in fulness of meal and plumpness of appearance, the barleys grown in Staffordshire, and on loamy lands.

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[*] Ruta Baga.

The barley of this district is of one sort; it is pretended there are some varieties to be found, which are more productive than that in common use, but the difference between them is not easily detected. It is not unusual to apply some new name to a sample brought into the market, and to represent it as being favoured by some especial quality. Such expedients raise its price for the season, and the imposition is sometimes successful to that extent.

(To be continued)

DITCHING.

Mr. Smith: *Fairfax County, Virg. August* 9, 1831.

Having been a subscriber to the "American Farmer" from its commencement, and feeling that I owe much to you, and your correspondents, I avail myself of this rainy day, to discharge to you and them a part of my obligations, by giving you a short account of my practice and its results—let me premise that you have called me an "old Virginian," and I assume as a truth, that this in itself, will shield me from the taunts and sneers of being a boaster or an egotist—when I look back and number the things that have been left undone, I shrink into nothing, and feel that "man is but a wild ass's colt." My farm consists of 600 acres of land under enclosure, and 700 out; the enclosure begins at the termination of a hilly, broken, and very poor country, and slopes rapidly to a dead level, not having a fall of more than three feet in a mile; through this flat, all the water that falls upon ten thousand acres of the hilly country is passed; from the hills it comes with overwhelming violence until it reaches the flat, bringing with it mud, sand, and stone. I have seen 100 acres of the flat covered with water at one view—yes, sir, at one fell swoop, the hope of the toil of 12 months would be buried and lost. I had succeeded to those who had high standing for judgment and good farming, the presumption of youth did not dare to any thing like change, I had nothing like a choice before me—the very thought of controlling such a body of water was to my experience, and with my means madness and folly—the books of my predecessors shewed me, that their average crop of corn for nine years, did not exceed 120 barrels, and the crop of wheat during the same time, did not exceed 150 bushels. I offered to sell, no one would purchase. I resolved to combat my adversary and overcome him, or die in the *ditch;* what I could not do in one year I should do in many—in 20 years I have nearly made my land as dry as the hills, that and that only, is my limit—dry land only can be cultivated to advantage—that only can be improved. I now have from 15 to 20 miles of ditching, and some of them 20 feet wide. I have made as many as 3000 bushels of wheat, and 800 barrels of corn, and as for grass, when that was worth making, I have sold 100 tons a year. I have made very free use of plaster of Paris and clover, and made countless experiments—with these, however, I am done, having settled down into a division of four fields—one in corn, one in wheat, and two in clover and timothy. Every farmer should manure all he can, and with the least labour in the application. I have a field now in corn which has given a crop for five years, and with very little manure, I have no doubt of making 700 barrels from it—this field improved by ditches and good ploughing is one of those that my predecessor made 120 barrels from, and is estimated to contain 95 acres. I cannot conclude this without recommending to *all* cultivators the use of the coulter plough, nothing can equal it for cheapness and effect. Very respectfully,

A Virginian.

(From the Winchester Republican.)

SHEEP.

Lucky-Hit farm, July 22, 1831.

Mr. Davis: I observed in your last Republican a comparison between some of the sheep of New York and our Frederick sheep. I cannot say that I regretted this little advantage of the ancient dominion over your native state, so far in many respects before your adopted one; but I am sorry, for the character of her agriculture, she cannot boast of greater productions in the article of wool, it being one of her great staples, and especially as she possesses a variety of breeds introduced from Europe.

I presume the seven New York sheep spoken of, shearing an average of 6 lbs. 3. oz. must either have been washed on the back or have produced wool of superior fineness, consequently less productive. The 28 sheep you mention, of the Frederick breed, shearing an average of 10½ lbs., were also picked sheep, as the average of the whole flock (about 130) was under 8 lbs. You further state that some individuals of the Frederick sheep have shorn as high as 14 lbs. Now I may remark that for several years past I have been in the habit of carefully reserving certificates from some of my neighbors of the weight of my shearings and of remarkable individual sheep, from a reference to which I find that the heaviest fleeces have been 16½ lbs—the greatest average 8½ lbs—half a dozen rams 13½ lbs. average—and several individuals 12 to 15. Our last shearing, in consequence of the severity of the winter, multiplication of number, latter lambs, and the increased fineness of the wool, was less than usual in its average—a fraction under 7½ lbs. from 160 sheep, which has been sold for 45 cents cash, with the reservation of a sufficiency for domestic purposes.

I have taken the liberty of mentioning my last shearing to you for several reasons:

1st. Farmers will not and should not be satisfied with partial reports of the shearing of a few remarkable sheep, picked out of a flock, because they all know that a few conspicuous individuals may be selected and made so fat as to produce, in dirt, grease and wool, double the quantity which has been the fair average of the balance of the flock kept in the ordinary way.

2d. Because there can be no possible deception when sheep are shorn and the wool weighed in the presence of a number of intelligent neighbours and friends.

3d. To excite a spirit for improvement in the multiplication of such rural meetings throughout the country, where farmers can compare notes, relate their successes, inquire into the causes of their failures, and spend a few rational hours in suggesting improvements in the numberless branches of the noblest of professions.

4th. For the better effect in having a number of respectable witnesses to the real character of any breed of animals, thereby facilitating their dissemination throughout the country, united with the superior social pleasure of seeing friends united in the cause of real utility, &c. &c.

At our late meeting, added to the pleasure of seeing friends from adjoining counties, was a truly intelligent gentleman who had lately seen some of the fine Southdown flocks of England, in a visit to the celebrated farmer, Mr. Coke of Norfolk. Such interviews are more than ordinarily interesting, and may be improved to great advantage when observation had been diligent and curiosity made subservient to schemes of general utility.

I have observed, Mr. Davis, many and long cries for wool! wool! wool! in your paper; and I might say, from having a greater demand for sheep, that the excitement does not end there. Farmers, instead of prudently preparing for high prices, put it off until it is too late. But it is always of importance to them to double the fleece and improve the wool. Little more than half the present price would yield a handsome profit if sheep generally produced double the quantity of wool, which may easily be attained by a uniformity of care and the introduction of crosses, accommodated to the circumstances by which they may be surrounded.

I am, &c. R. K. Meade.

WEEVIL.

It has become a matter of much importance with farmers and millers to prevent, if possible, the destruction which this little insect yearly makes in their grain. Various methods have been resorted to for this purpose, but none has yet been found sufficiently efficacious to be generally adopted. In the hope however that some means may be discovered that will have the desired effect, we will gladly communicate the result of any attempt at this object, and with this view give the following method as practised by Col. Drake of this vicinity, for two or three years past with entire success, viz:—In mowing or stacking his wheat he sprinkles a small quantity of salt over each layer of sheaves. Four or five quarts to the hundred dozen he has found quite sufficient. By this means he has preserved his wheat entirely free from weevil while his neighbours have complained of great damage. Of the security thus afforded he says he is altogether convinced from an experiment made last year. Having omitted to salt a small part of his wheat, he found it on examination very much eaten, while the salted wheat remained entirely undisturbed, although in the same mow. One advantage, it is to be noticed, which this method possesses over every other, is that the straw is most equal to the best timothy hay, and cattle will eat it, we are informed, in preference. Let it be tested. [*Lebanon Ohio Star.*

HORTICULTURE.

(From the Florida Herald.)

ON FORCING FIGS.

Dear Sir;—I had long ago heard, but without placing any confidence in it, that some few of the Minorcan inhabitants of this city, were in possession of a secret in the use of oil that accelerated the ripening of figs: with two kinds of which, you know, our city abounds, and very fine ones; the large white, the earliest; and the large purple, the later.

Last week I found, that an old acquaintance of mine, from up the Mediterranean, had anointed a parcel of the white, quite small, green and hard, in order to prepare a dish for St. John the Baptist's day, the twenty-fourth of the present month; and that she had done this in advance of only some seven or eight days.[*] This information, added to my own conviction of there existing a wonderful and wide spread affinity, but little known or even noticed, between oleaginous substances of all kinds, in both a sound and decomposed state, and vegetable health, progress and preservation, which I had derived from the use of them on the bodies of trees; in a rotted state, as manures, &c. I went to work on the 21st, and with olive oil anointed the bud ends or crowns of about forty, as a trial. Some of them I slightly punctured in the centre of the crown, with a blunt pointed piece of stick, previous to applying the oil, for the purpose of giving a larger dose. This, I think, brought them on a little faster; but as it inflicts a wound, however slight, there is danger of the rain getting in and spoiling the fruit.

The results were, that though I had made the operation on a part of the tree which enjoys no sun after three o'clock, there was, on the second day, a visible difference of size in favor of those that had been anointed; for I had left on each small branch two or three figs untouched, the better to mark the progress of the others. And on the seventh day I had a plate of fine ripe figs at my breakfast; while, on the whole tree, a very large one, there is not one of what we call rare-ripes; nor any others attempting to *start* for maturity.

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[*] I have since ascertained that she used hog's lard.

Besides having our figs several weeks in anticipation, this affords another advantage. When this fruit has approached to the stage of a general ripening, we frequently have showery weather that destroys by rotting, or spoils by rendering insipid a large portion of them.

I shall continue the experiment on oranges, pomegranates, peaches, &c. for I believe the influence will be found, in a greater or less degree, general. I have no doubt of all fluid or soft grease having the same effect; but it would not do to use those that are offensive to the taste or smell. With respect, your obedient servant. Geo. G. F. Clarke.

St. Augustine, 28th June, 1830.

(From the New-England Farmer.)

MANAGEMENT OF FRUIT TREES.

Mr. Fessenden—Seeing in a late number of your valuable paper, an extract from the "Genesee Farmer," on the efficacy of the application of soap in preventing the ravages of caterpillars and other insects on fruit trees, I am induced to mention the method which for four years past, I have pursued, with regard to my peach, and other fruit trees on my farm.

The peach trees, I have annually topped down, say two-thirds of the previous year's growth, and have found that this operation, invariably, had given increased strength to the stock, vigor to the lateral and bearing branches, and protects the trees, in a great measure, from the violence of the wind. At every time of trimming, I have given them a wash of soap diluted to the consistency of common paint (and this has been repeated twice during the summer months) throughout the trunk and branches, the branches from the manner of pruning, being within reach of a short brush.

There has been in my neighborhood, this season, great complaints of a blight on the peach trees, with a shedding of the fruit. On all of mine, (thus treated) *no blight has appeared,* and on those of them which blossomed, there is now a fair quantity of fruit. I can account for this difference in no other way, than by the *manner of pruning and frequent application of the soap wash.*

The tender shoots of some of my old, headed down peach trees; were soon after their appearance attacked by green lice, and pismires; I made the same application, which effectually removed them.

The same has been done to my apple orchard, (with the exception of topping,) and I am fully convinced, that nothing can be applied, which gives the bark so healthy an appearance, and so smooth a surface as the above treatment; the attack of the smallest insects in summer is prevented by the alkali contained in the soap, and the smoothness of the bark prevents the deposit of their eggs.

I have likewise applied a strong decoction of tobacco leaves which may be as effectual against vermin, but not so beneficial to the health of the tree.

Your ob't serv't, Wm. P. Endicott.

Danvers, Aug. 3, 1831.

On the Utility and Beauty of Flowers.

On a due investigation of the formation and utility of Flowers, we are presented with many curious "phenomena" of nature's sublimest productions, for we easily find that her "*primitive* ordination" of plants remains perpetual in all its different parts; with an exception of monstrosities, as double flowers, variegation, &c. These may be considered as mere sports of nature which continue a certain period, and these resolve themselves in a longer or shorter space of time into their primitive qualities, in a manner truly admirable even to the most common observer. We see the continuation of flowers of the same species for centuries decomposing and composing themselves; and rising in its original and primitive form, in perfect symmetry and structure, without the least variation of hue, evidently showing the regularity of the works of the giver of all natural productions—and exhibiting the dependency of the animal on the vegetable kingdom. The latter being a medium conductor for the service and support of the former. Under such circumstances flowers are worthy particular consideration to all those who have a regard for their own welfare, as the existence of all animation rests thereon—This is of the greatest importance in the scale of things, and accounts in some degree for the general respect shown to flowers by mankind; but it is greatly to be regretted that monstrosities are considered by the generality of the people as the *superior*, whereas in the case of monstrosities, the true organs are mutilated or transformed, and may be considered unfruitful; consequently they are void of that beauty which reigns through most of the vegetable kingdom; for a convincing proof of this, if the native flowers of this immediate vicinity were to be duly examined, they will be found to contain many interesting properties in their primitive state, which would in many instances become monstrosities by a high state of cultivation.

When a due consideration is given on the above subject it will be found that "the utility" of flowers is universally and absolutely necessary, as the principal agents of existence to all living bodies—and that in tracing their beauties, no unpleasant or ungraceful subjects are to be studied. But they are all sublime and beautiful, springing from under our feet in native purity and loveliness. E. S.

A curious fact is mentioned in a work by Dr. Hill, published in 1773, London, entitled, "A Decade of curious Plants, some of them not described before," which, if true, may possibly diminish the attachment of some persons to the plant called Mignonette. In describing the *allucita palida,* he observes, that this insect once came strangely before him.—"A studious gentleman, very subject to the headache, which he and his physicians both attributed to great attention, sneezing one day with violence as he was writing, saw some atoms a moment afterwards upon the writing paper, and they plainly moved. He doubled up the paper and brought it to me; when we laid a parcel of these moving particles before the lucernal microscope, they appeared in continual motion, vibrating their antlers, shaking their wings, and turning up their tails to their heads in the manner of ear-wigs, but with incredible swiftness. It was palpable they had been discharged from his nose; and it is easy to see from whence they were thrown, and to understand how they might have caused intolerable pain, whilst they were thus rousing and moving their irritating hairs and feathers, upon a part where the very substance of the brain is almost naked. I had seen the same species inhabiting the flowers of the plant Mignonette; and, on inquiry, found that he had that plant in his chamber."

At a recent meeting of the Horticultural Society a paper was read, entitled "An account of the different modes of keeping fruit, which have been tried at the Society's garden for the season 1831." The statement was drawn up at the garden, and enumerated eight different modes; the three best, and most practicable of which were, the covering of the fruit in pure and perfectly dry sand, dry fern, or in a deal box buried in the earth. By any of these modes it was preserved; free from shrivelling and any disagreeable flavour—in all it must be deposited in a cold situation. By the other five modes, although the fruit was preserved in a pretty sound state, a musty flavour was found to be communicated; this was especially the case where oat-chaff was the medium.

RURAL ECONOMY.

THE HORSE.

[We propose devoting a few columns of our department of Rural Economy, to that most interesting of all domestic animals, the horse—the farmer's horse. That excellent association in England, the society for the diffusion of useful knowledge, have published a series of papers in their library on this subject, from which we shall copy such parts as may seem useful. We need scarcely apologise for confining our attention to the farm horse, or such animals as are useful in practical agriculture. True, we have readers to whom the racer is a subject of deep interest; but we have many more to whom it is not. In the language, therefore, of the author of the papers to which allusion is made above, "remembering the title of our work, we will begin with those which are occasionally or chiefly employed for agricultural purposes."]

(From the Library of Useful Knowledge.)

THE ROAD HORSE.

The road horse! more difficult to meet with in perfection than even the hunter or the courser. There are many reasons for this. The price of the hackney, or the horse of all-work, is so low, that he who has a good one will not part with him; and it is by mere accident that he can be obtained. There are also several faults that can be overlooked in the hunter, but which the road-horse must not have. The hunter may start, may be awkward in his walk, or even his trot; he may have thrushes or corns; but if he can go a good slapping pace, and has wind and bottom, we can put up with him, or prize him: but the hackney, if he be worth having, must have good fore legs, and good hinder ones too; he must be sound on his feet, even-tempered; no starter; quiet in whatever situation he may be placed; not heavy in hand, and never disposed to say his prayers.

If there be one thing more than any other, in which the possessor, and, in his own estimation at least, the tolerable judge of the horse, is in error, it is the *action* of the road-horse: "let him lift his legs well," it is said, "and he will never come down."

In proportion, however, as he lifts his legs well, will be the force with which he puts them down again; the jar and concussion to the rider; and the battering and wear and tear of the feet. A horse with too great "knee action" will not always be speedy; he will rarely be pleasant to ride, and he will not, in the long run, be safer than others. The careless *daisy-cutter,* however pleasant on the turf, should indeed be avoided, unless the neck of the rider be previously insured, yet it is a rule, not often understood, and sometimes disputed, but which experience will fully confirm,—that the safety of the horse depends a great deal more on the manner in which he puts his feet down, than on that in which he lifts them up:—more on the foot being placed at once flat on the ground, or perhaps the heel coming first in contact with it, than on the highest and most splendid action.

When the toe first touches the ground, it may be easily supposed that the horse will occasionally topple over. An unexpected obstacle will throw the centre of gravity forward, and down he will come. If the toe dig into the ground before the foot is firmly placed, a little thing will cause a trip and a fall.

Let the farmer who has a stumbler look at the shoes of his horse. In what part is the wear and tear?—The toe of the shoe will become round, or even be altogether gone, before the heel is scarcely touched.

For pleasant riding, and for safety also, a hackney *should not carry his legs too high.* His going a little *too* near to the ground is not always to be considered as an insuperable objection. The question is, does he dig his toe into the ground?

Mount him, and put him to the test. Take up his feet and examine them. If the shoe, after having been on a week, or a fortnight, is not unnecessarily worn at the toe, and you feel him put his foot flat on the ground, do not scruple to buy him, nay, esteem him a "choice-gifted hackney," although he may not have the lofty action which some have erroneously thought so necessary.

Every horse, however, is liable to fall, and therefore comes the golden rule of riding, "*never trust to your horse*,"—always feel his mouth lightly. He does wrong who constantly pulls might and main; he will soon spoil his horse's mouth, and render the arm-aching work always necessary. He does worse who carelessly throws the reins on the neck of the horse. *Always feel the mouth lightly;* you will thus be able to give the animal assistance *immediately*, before he is too much off his centre, and when a little check will save him. By this constant gentle *feeling* you will likewise induce him to carry his head well, than which few things are more conducive to the beautiful, safe, and easy going of the horse.

The road-horse may, and should, like the hunter, possess different degrees of blood, according to the nature of the country, and the work required of him. When approaching to thoroughbred, he may be a splendid animal, but he will be scarcely fitted for his duty. His legs will be too slender; his feet too small; his stride too long; and he will rarely be able to trot. Three parts, or half, and for the horse of all-work, even less than that, will make a good and useful animal.

The hackney should be a hunter in miniature, with these exceptions. His height should rarely exceed fifteen hands and an inch. He will be sufficiently strong and more pleasant for general work below that standard. He should be of a more compact form than the hunter:—more bulk according to his height, for he has not merely to stand an occasional although severe burst, but a great deal of every-day work.

It is of essential consequence that the bones beneath the knee should be deep and flat, and the tendon not *tied in*.

The pastern should be short, and although oblique or slanting, yet far less so than that of the race-horse, and considerably less than that of the hunter. There should be obliquity enough to give pleasant action, but not enough to render the horse incapable of the wear and tear of constant, and sometimes hard work.

The foot is a matter of the greatest consequence in a hackney. It should be of a size corresponding with the bulk of the animal, neither too hollow, nor too flat; open at the heels; and free from corns and thrushes.

The fore legs should be perfectly straight. There needs not a moment's consideration to be assured that a horse with his kees bent will, from a slight cause, and especially if he be overweighted, come down.

The back should be straight and short, yet sufficiently long to leave comfortable room for the saddle between the shoulders and the *huck* without pressing on either. Some persons prefer a hollow-backed horse. It is generally an easy one to go. It will canter well with a lady; but it will not carry a heavy weight, or stand much hard work.

The road-horse should be high in the forehand; round in the barrel; and deep in the chest; the saddle will not then press too forward, but the girths will remain, *without crupper*, firmly fixed in their proper place.

A hackney is far more valuable for the pleasantness of his paces, and his safety, good temper, and endurance, than for his speed. We rarely want to go more than eight or ten miles in an hour; and, on a journey, not more than six or seven. The fast horses, and especially the fast trotters, are not often easy in their paces, and although they may perform very extraordinary feats, are disabled and worthless when the slower horse is in his prime.

Most of our readers probably are horsemen. Their memories will supply them with many an instance of intelligence and fidelity in the horse, and particularly in the hackney—the every-day companion of man. A friend of ours rode thirty miles from home on a young horse which he had bred, and which had never before been in that part of the country. The road was difficult to find, but by dint of inquiry he at length reached the place he sought. Two years passed over, and he had again occasion to take the same journey. No one rode this horse but himself, and he was perfectly assured that the animal had not since been in that direction. Three or foor miles before he reached his journey's end he was benighted. He had to traverse moor and common, and he could scarcely see his horse's head. The rain began to pelt. "Well," thought he, "here I am, far from any house, and know not, nor can I see an inch of my road. I have heard much of the memory of the horse,—it is my only hope now,—so my fine fellow," throwing the reins on his horse's neck, "go on." In half an hour he was safe at his friend's gate.

The following anecdote, given on the authority of Professor Kruger of Halle, proves both the sagacity and fidelity of the horse. A friend of his, riding home through a wood in a dark night, struck his head against the branch of a tree, and fell from his horse stunned. The steed immediately returned to the house which they had lately left, and which was now closed, and the family in bed, and pawed at the door until some one rose and opened it. He turned about, and the man wondering at the affair, followed him: the faithful and intelligent animal led him to the place where his master lay senseless on the ground.

Cunningham, in his valuable account of New South Wales, vol. i. p. 298, says, "a friend of mine in the habit of riding a good deal, found that whenever he approached a gully, his sagacious horse invariably opposed his wishes to cross at the particular spot he had been accustomed to, always endeavouring to lead off to another part of the gully, where no passage was known to exist by his rider. Resolving to see whither the cunning rogue would go, he gave him the rein, and soon found himself carried over the gully by a route he had never before followed. Still, however, thinking that the former way was the nearest, he was curious enough to have both measored, when he found the horse's judgment correct; that way being the nearest by several hundred yards."

Of the paces of the hackney, and of horses generally, and the principle of the walk, the trot, the canter, and the gallop, we shall be better able to speak, when the structure of the horse, varying in different breeds, has been explained.

The points of shape most essential to be attended to in the choice of a hackney, are—the shoulders and the fore legs and feet: because a horse whose shoulders are properly formed and placed is not liable to fall down; and because his soundness depends chiefly upon his legs and feet. The shoulders should not be too upright, but should slope backwards from the shoulder point to the withers. It is desirable, if the horse is intended to carry a man of much weight, that the shoulders should be rather thick than thin; but it is essential that they should not be too large at the points. A horse whose shoulders are good, stands, when in a natural position, with his fore legs in a line perpendicular to the gound; it is therefore very desirable that the purchaser should see him in the stable, and before he has been moved, for he will then find him in his natural position, in which it may be difficult to place him after he has been once disturbed. Another mode of ascertaining whether the shoulders are properly placed is, by allowing the horse to walk past you, and to observe whether he places his fore foot more forward than the shoulder point when he puts it on the ground. A horse whose shoulders are properly formed will always do so; one whose shoulders are upright, cannot. The fore quarters of a horse intended to be used as a hackney constitute an essential point: his carcase should be round, and his ribs deep. A horse's fore leg, of the proper form, should be flat, and as large under the knee as it is just above the fetlock. The pastern should be so joined to the leg at the fetlock, that the horse should neither turn his feet out or in; but it is less objectionable that a horse should turn his feet a little outwards, provided it is not so much as to make him hit his fetlocks, than that he should turn them inwards.

(From the New England Farmer.)

REMEDY FOR RED ANTS.

MR. FESSENDEN—As there is great complaint in the papers respecting the little nauseous red ant that infests the closets and dairy rooms of farmers, I beg leave to ask you to re-publish from the New England Farmer of Sept. 10, 1830, page 64, a complete remedy that you then copied from Mrs. Child's invaluable "Frugal Housewife." I have tried it in a closet, and in a large cheese room, and find the ants will leave every thing for the walnuts.

"It is unnecessary to tell any who have had experience of the evil, that *red ants* are like the plagues of Egypt. The following method of destroying them seems to be too simple to be very effective; but I have known it succeed, when a house had been infested with them for years.

"These insects are extravagantly fond of shagbarks, or American walnuts: fill a large dish with these nuts, cracked, and they will quit every thing else, to cluster upon it. When the dish is well covered, remove it carefully, and brush them all into the fire; at the same time have a little *corrosive sublimate* in a cup, to sweep in such as happen to stray from the dish; and touch all the cracks and crevices, from which you have seen them come, with a feather, dipped in the same poison. In one week if this be repeated they will all be gone. By no means leave the cup, or poisoned feather about for an instant."

PERRY,

The name of a pleasant and wholesome liquor made from the juice of pears, by means of fermentation, somewhat in the same manner as cider from apples.

The best pears for perry, or at least the sorts which have been hitherto deemed the fittest for making this liquor, are so excessively tart and harsh, that no one can think of eating them as fruit; for even hungry swine will not eat them; nay, hardly so much as smell to them. Of these the Bosbury pear, the Bareland pear, and the horse pear, are the most esteemed for Perry in Worcestershire, and the squash pear, as it is called in Gloucestershire; in both which counties, as well as in some of the adjacent parts, they are planted in the hedge rows and most common fields.

It is observed by Mr. Knight, that in the making of this sort of liquor, the pears are ground and pressed in exactly the same manner, as those of apples in the manufacturing of cider; but that it is not usual for the reduced pulp to be suffered to remain any length of time without being pressed. It has never, he says, been the practice in Herfordshire, or the counties in the vicinity of it, to blend the juices of the different varieties of the pear in order to correct the defects of one kind, by the opposite properties of the other. It is however, he allows, more easy to find the required portion of sugar and of astringency as well as flavour, in three or four varieties than in one; hence, he supposes, a judicious mixture of fruits affords a prospect of great benefit.

In grinding, he remarks, that the pulp and rind of the pear, as in the apple, should be perfectly reduced, and that though no benefit is said to have been derived from the reduced pulp remaining some hours unpressed, he has no doubt but that where all other circumstances are the same, that portion of liquor will for the most part be found the best, which has remained the longest under the power of the mill stone.

The juice of the pear and the apple, he says, are constituted of the same component parts, but that the proportions are different. In the juice of the pear the tanning principle is predominant, with a less portion of sugar, mucilage, and tinging matter.

The method of managing this sort of liquor during the process of fermentation, is likewise, he observes, nearly the same as that in cider; but that it does not afford the same indications by which the proper period of racking it off may be known. The thick scum that collects on the surface of cider, he remarks, rarely appears on the juice of the pear, and during the time of the suspension of its fermentation, the excessive brightness of the former liquor is seldom seen in the latter; but that where the fruit has been regularly ripe, its produce will generally become moderately clear and quiet in a few days after it is made, and it should then be drawn off from its grosser lees. An excess of fermentation is prevented by the means used in the making of cider; and the liquor is rendered bright by isinglass. The power this substance possesses of fining liquors appears, he says, to be purely mechanical; it is composed of innumerable fibres, which being dispersed over the liquor, attach themselves to, and carry down, its impurities. For this purpose it should be reduced to small fragments by being pounded in a mortar, and afterwards steeped twelve or fourteen hours in a quantity of liquor sufficient to produce its greatest degree of expansion. In this state it must be mixed with a few gallons of the liquor, and stirred till it is diffused and suspended in it; and it is then to be poured into the cask, and incorporated with the whole by continued agitation for the space of two hours. This process must be repeated till the required degree of brightness is obtained, the liquor being each time drawn off, on the second or third day, from its precipitated lees. Not more than an ounce and a half, or two ounces of isinglass, are, he believes, generally put into a cask of a hundred and ten gallons, at once; but were its mode of action purely mechanical, there could be no objection to a larger quantity; but it has also he says, a chemical action on the liquor. It combines with and carries down the tanning principle, and hence, during the process of fining, the liquor is deprived of a large portion of its astringency.

This substance is most readily diffused in liquors by boiling, but by this it is dissolved, and converted into glue; and its organization, on which alone its powers of fining depend, is totally destroyed. The application of it is sometimes also necessary in the manufacture of cider; though colour is seldom wanting in that liquor.

Where perry or cider can be made sufficiently bright without it, he would not by any means recommend its use. The liquor is rendered extremely agreeable to the eye by it; but has always appeared to him to become more thin and acid by its action.

In respect to the "after-management of perry it is the same as that of cider; but it does not bear situations where it is exposed to much change of temperature, so well, and its future merit cannot so well be judged of by its present state. In the bottle it almost always retains its good qualities, and in that situation he would always recommend it to be put, if it remains sound and perfect at the conclusion of the first succeeding summer."

On the whole the pear furnishes a less popular liquor than the apple, but the tree is capable of being grown on a greater variety of soil, and is more productive, furnishing in the proportion of 600 gallons of liquor to the acre, where the trees are full grown.

[*Complete Farmer.*

Gum Camphor is recommended in the Boston Patriot as a remedy for the annoyance occasioned by the presence of red ants. The Georgetown (D. C.) Gazette says, that in one part of that town "the large black ants have become so numerous in doors and out, that the houses are untenantable."

MISCELLANEOUS.

Recovery from the Effects of Carbonic Acid Gas, or Damps in Wells.

The Ravenna papers contain an account of the restoration of two persons, who had been suffocated with this deadly vapour, by the effusion of cold water. The circumstances of this occurrence are, in substance as follows:—A son of a Mr. Vial, of Copley, Medina county, in descending into a well, which his father was excavating, was observed to fall lifeless; his father attempted to rescue him, but met with a similar fate; another man who was present, started in pursuit of assistance, but during his absence, a lady on a visit to the family seized a pail of water and dashed it upon the head of Mr. Vial. He immediately revived, so as to be able to place himself and son in the tub, and they were drawn out together, by the exertions of the females. The son was also restored by a similar application of cold water; but was very ill for several hours.—The experiment was afterwards tried upon a chicken with similar success. The knowledge of this remedy is not altogether new to medical science, though it has unfortunately been perhaps, but little used in practice. A remarkable instance of the beneficial effects of this application, occurs at the *Grotto del Cane*, in Italy—a cavern, which at all times contains a stratum of carbonic acid gas, rising a few inches above its floor. It has long been a custom among the guides to gratify the curiosity of visiters to take along a dog, and deprive him of animation by confining his head in the gas. After all signs of life have disappeared, the dog is plunged into a neighboring lake and quickly recovers. [*Ohio paper.*

(From the Canandaigua (N. Y.) Repository.)

WOOL.

It is only within the last few years, that any considerable quantity of this article has found a market in our village. Last year, 53, 300 pounds were purchased, amounting to $18,655. This year, our merchants have bought 135, 960 lbs. for which, the sum of $91,739 30, in *cash*, has been paid to the enterprising farmers of this and the adjoining counties. It ought to be remarked, that the unwise and impolitic speculation entered into last fall, in slaughtering many thousands of common sheep for their pelts, withdrew from this market, not less than 100,000 pounds of wool, which would have readily brought fifty cents per pound, and given an additional sum of $50,000 to the wealth of this county.

THE FARMER.

Baltimore, Friday, August 19, 1831.

Improvement of Corn.—The Editor of the American Farmer has heretofore stated that he has been pursuing a system of improvement in corn for a few years which bid fair to be of importance to the agricultural community. He has now the satisfaction to state that he has just gathered some early corn, the result of this season's experiment, which he thinks cannot fail of being highly estimated. It is a cross between the early yellow Canada and the large white Tuskarora corn, and partakes of the peculiar characters of both. It has the eight rows, and large and full grains of the Tuskarora, and the small cob, firmness and weight of the Canada; while its color is a beautiful bright cream; a medium tint between the deep yellow of the Canada and the clear white of the Tuskarora. There can be no doubt that it will be as early as the Canada corn, as the present specimen has ripened even before the general crop of that kind. That others may be enabled to make these improvements the process pursued will be repeated:—The Editor selects two kinds of corn, the good qualities of which he wishes to combine in one. Say it is desired to produce a kind of corn with large ear and grain of the Tuskarora, and the firm heavy kernel of the Canada, as in the above. It is only necessary to plant a patch of the Canada in the usual way, and every alternate hill of every third row with Tuskarora corn. When the male flowers (the tassels) of the Tuskarora make their appearance, carefully pull them out; this must be done as soon as they appear, or the experiment will fail. In this process, a moment's reflection will show, the surrounding Canada corn will supply the *pollen* from its tassels, and consequently the product will be a perfect cross between the two kinds. The size of the ear and of the grain and the number of rows will be the same as those of the Tuskarora, while the color and quality of the grain will partake largely of those of the Canada,—the former in this case being the female and the latter the male parent. Next year the Editor intends to commence experiments with field corn, having no doubt of his ability to produce equally pleasing results. Those interested are invited to view the result of the above experiment at the office of the Farmer.

"Catechism of Health."—The Editors of the Journal of Health have recently published a small volume with this title which we would recommend to the attention of our agricultural friends. It is intended mainly as a preceptor, the observance of the precepts of which will ensure, in the absence of casualties, a healthful life and a vigorous old age. It is of course exclusively devoted to the prevention of disease; but it is a good old saying that "a grain of prevention is worth an ounce of cure." There are some things in the book that would not suit the appetite of farmers, but there is enough besides that will be found most wholesome fare. The rules of diet, for instance, if strictly followed by our rural housewives, would cause many a sturdy farmer to look blue at the "boiled egg or two" and small slice of bacon served up for his breakfast. The truth is, that rules of diet can no more be defined than rules of taste, about which it has long been a proverb that there is no disputing. Were we to attempt a regulation of the diet of mankind, and even were we invested with power to make our precepts imperative, our whole book should be comprised in these few words—eat and drink freely of whatever you find to be agreeable to your palate and wholesome to your stomach, and reject every thing of a contrary tendency. To this we are aware the objection will be raised, that the appetite may have been vitiated, the taste depraved, and the stomach habituated to unwholesome viands, and therefore people generally are liable to be deceived, and are thus improper judges of what is fit and proper to be eaten. To all which it may be replied, that if the palate that tastes, and the stomach that digests be not proper judges of the flavor and wholesomeness of the food, we can scarcely expect judicious decisions from persons who cannot possibly possess this practical testimony. Still, the Catechism of Health is a good book, and at all events may be followed even in its errors with safety, for they are all on the safe side. It is, besides, replete with wholesome precepts on subjects generally overlooked in the management of families, and attention to which would undoubtedly be conducive to health—hence we would recommend it to our readers.

"Re Rustica" No. V. and "Potomac" came to hand too late for the present number, but will appear in our next. We beg our friend Re Rustica to continue his extracts from the ancient Roman, Columella—especially in the absence of more original matter for the exercise of his pen. We hope, however, he will not forget the subject of hillside ditching and horizontal ploughing.

☞ We observe that the Hillsborough, N. C. Recorder, and some other papers, have republished an excellent article on Indian Corn which, appeared in the American Farmer, originally from the pen of "Re Rustica," and given credit for it to the Lynchburg Virginian. We presume this to have originated in the accidental omission of the Virginian to give the proper credit, and we only mention it for the purpose of inducing more caution in such things; for while we shall always endeavour to "give unto Cæsar that which is Cæsar's" we shall be equally attentive to that which is our own.

The Vegetable Phenomenon, of which we copied an account into our last number from the United States Gazette, is of common occurrence under particular circumstances. A much respected lady, seeing the account, has sent to the editor of the American Farmer, a lemon with two young trees growing in it, in the same manner, and of the same description, as that exhibited in Philadelphia. The phenomenon is thus explained: The fruit will remain on the tree generally two years, and sometimes longer; but the seed is mature at the end of one year from the blossom, and its remaining enveloped in the moist pulp of the fruit, so long after its maturity, causes it to vegetate.

Mr. Smith: *Frederick County, Virginia, August* 10.

The judicious arrangement in your last No. with respect to the Premiums offered for essays, will no doubt be very satisfactory to your writers and subscribers. The more liberal time afforded them will insure a much greater number of candidates, and a deliberate opportunity of collecting experiences, or correcting the fancy and imagination which too often usurp the place of facts and sound reasoning. You will please pardon my candor when I tell you that I admired your zeal more than your promptness in calling out essayists at so short a notice in the *first* place. Many of your useful communicants will require a liberal allowance of time, from a want of leisure, and the habit of very moderate motion when any thing like deep thinking or literature is concerned—those who have hastily written will have an opportunity of revising and correcting, better to meet the great agricultural strife on the 1st January, 1832. We farmers will be well satisfied to receive your tempting honors and rewards, on the 1st of every January, or once a year at whatever season it may be most agreeable to you. Respectfully, A Friend.

Prices Current in New York, August 18.

Beeswax, yellow 19 a 20. *Cotton*, New Orleans .10 a .12½; Upland, .7½ a .10; Alabama, .8 a 12. *Cotton Bagging*, Hemp, yd. 15 a 20; Flax 13 a 14½; *Flax*, American, 7 a 8.—---*Flaxseed*. 7 bush. clean .—-- a .—— *Flour*, N. York, bbl. 5.00 a 5.12; Canal, 5.25 a 5.50; Balt. Hwd.st. —- a 5.37½; Rh'd. city mills-—— a -—— country, —.- a 5.00; Alexand'a, 5.00 a 5.25; Fredericksburg 4.75 a 4.87; Petersg. 4.87 a 5.00; Rye Flour, —-- a 3.62; Indian Meal. per bbl. 3.62 a 3.75; per hhd. 17.00 a 17.25; *Grain*, Wheat, North, 1.09 a 1.12; Vir. 1.05 a 1.07; Rye, North, 75 a 77; Corn, Yel. Nor. — a 75; Barley. — a —; Oats, South and North, .37½ a .-; Peas, white, dry, 7 bu. 5. Beans, 7 bu. 7.00 a 8.00. *Provisions*, Beef, mess 8.50 a 9.00; prime 5.50 a 5.75; cargo 4.62½ a 5.00; Lard, 8½ a .11; Pork, mess, bbl. 14.00 a 14.75; prime 10.00 a 11.25.

Prices Current in Boston, August 10.

Apples, new, bbl. —-- a —---. *Beans*, white, bushel .90 a 1.00. *Beef*, mess, bbl. 8.50 a 9.00; cargo No. 1, 7.00 a 7.50; No. 2, 6.25 a 6.50. *Butter*, inspected, No. 1, new, lb. .15 a .18. *Cheese*, new milk, 6. a 8.; skimmed milk, 3. a 4. *Flour*, Baltimore Howard-st. 5.25 a 5.50; Genesee, 5.37 a 5.62; Rye, best, — a —. *Grain*, Corn, bu. .68 a 70; Rye, .75 a .78; Barley .60 a .67; Oats 36 a 40. *Hogs-Lard*, 1st sort new, lb. 10.00 a 10.25; *Pork*, clear, bbl. 17 a 18; Navy, mess, 13.00 a 14.00; Cargo, No. 1. 13.50 a 14.00; *Wool*, Merino, full blood, washed, .65 a 75; do. do unwashed, .— a .—. Merino mixed with Saxony, .75 a .80; Merino, three fourths, washed, .60 *a* .63, do. half blood, .50 *a* .55; do. quarter, 45 *a* 50. Native, washed .45 a .50; Pulled, Lambs', 1st sort, .56 a 58; do. 2d sort, .45 a .47; Pulled Spinning, 1st sort, 50 *a* 53.

ELKWOOD ESTATE.

To be sold, that well known, and highly valuable estate in the county of Culpeper, Virginia, about 30 miles from Fredericksburg, late the property of Mr. Carter Beverly, and afterwards of Mr. John S. Thornton, but now in the occupancy of Mr. John Browning, who is going to England. The estate is so well known for the fertility of its soil, and the beauty of its situation, that a particular description is unnecessary. The mansion house is in excellent repair, and is happily placed on a gentle eminence in the centre of the property. It is bounded on the east, northeast, north, and northwest, by the river Rappahanock, on the banks of which lie near 700 acres of fertile land, the most part river bottom, at present in the highest state of cultivation, and covered with luxuriant crops of clover. The surrounding uplands produce excellent wheat, rye, and oats, and there is a sufficient body of wood to maintain the fences. It has likewise the singular advantage of a small stream passing through it, which never fails; so that all the fields are well watered, and there is a capital mill site on which formerly stood a merchant mill, and saw mill. The farm building, barn, cornhouse, overseer's house, negro quarters, &c. are at a convenient distance from the mansion house, and afford the most ample accommodation

The property will be sold by public auction in June next, 1832, altogether or in lots, as may suit the purchasers, should it not be disposed of in the mean time by private contract, and ample time will be allowed for the payment of the purchase money. It is presumed an estate so well calculated for the residence of a gentleman, on account of the beauty of its situation, and substantial improvements, cannot be found in Virginia. It is estimated to contain about 1831 acres, and is remarkable for the salubrity of its air, and the absence of marsh and stagnant waters. Letters, post paid, may be addressed to the proprietor, at the post office, Stevensburg, Culpeper county, Virginia, and the premises may be viewed at any time.

August 19.

ORCHARD GRASS SEED WANTED.

WANTED IMMEDIATELY by the subscriber, a few hundred bushels of Orchard Grass SEED of this year's growth, and free from noxious seeds, for which cash will be paid on delivery. Who has on hand his usual supply of Agricultural Implements, such as superior Ploughs, Wheat Fans, Cultivators, Harrows, his patent cylindrical Straw Cutter, superior Rag Cutters for paper making, Dutch Cutting Boxes, Scythes, Hay and Manure Forks, Hoes, Brown's vertical Wool Spinners, Wire Safes, and Wove Wire, &c. &c.

Also a general assortment of the Messrs. Landreth's Garden Seeds, for sale, and will furnish fruit and ornamental TREES from their nursery to order.

And likewise keeps a general assortment of Grass Seeds for sale, of such as can be depended on.

J. S. EASTMAN,
August 5. No. 36, West Pratt street.

WOOL WAREHOUSE.

LYMAN REED,

Commission Merchant, No. 195 *Baltimore street,*

Devotes particular attention to the sale of WOOL. Any consignments of the article forwarded to him for sale, can be disposed of immediately for CASH, at the highest market price.

CASH, and a fair price, will be paid for a few thousand pounds of *good wool*, (if offered immediately,) to supply orders now on hand.

Refer to Messrs. Cobb, Wyman & Co. Baltimore.

AGRICULTURAL BOOKS.

A general assortment of Agricultural Books kept constantly for sale at this office.

BALTIMORE PRICES CURRENT.

Baltimore Market.--There is very little change in the prices of produce—a trifling advance in flour and grain will be noticed, caused principally by the very limited supply. The wagon price of Howard street flour yesterday was from $5.50 to 5.56. Our extreme rates for wheat can only be obtained for very choice parcels. There is no change in the prices of wool since our last—and very little business doing, the farmers generally having had the good sense to take the fleece to market as soon as it came from the back and thus obtained the then high price.

Tobacco.---Seconds, as in quality, 3.00 a 5.00; do ground leaf, 5.00 a 8.00.—-Crop, common, 3.50 a 4.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 10.00; yellow and red, 8.00 a 14.00; yellow, 14.00 a 16.00.—Fine yellow, 16.00 a 20.00.—Virginia, 4.00 a 5.00.—Rappahannock, 3.00 a 4.00——Kentucky, 3.50 a 8.00. The inspections of the week comprise 575 hhds. Md.; 69 hhds. Ohio; 30 hhds. Kentucky; and 2 hhds. Penn.—total 676 hhds.

Flour—best white wheat family, $6 00 *a* 6.50—super. Howard-st. fresh $5.62½; city mills, fresh, 5.25 5.50; Susq.— *a* —; Corn Meal, bbl 3 50; Grain, Md. red wheat, 90 *a* 1.12½; white do. 1.10 *a* 1.22, Susq. — *a* ——Corn, white, 63 *a* 65—yellow 65 *a* 67 Rye, 63 *a* 65. Oats, .28 *a* 30. Beans, 75 *a* 80--Peas, 65 *a* 70—Cloverseed 5.00 *a* 5.50-Timothy, 2.00 *a* 2.50—Orchard Grass 1.25 *a* 1.75—Tall Meadow Oat Grass 2.75--Herd's, 50 *a* 75---Lucerne 30 *a* 37½ lb.——Barley, -—-Flaxseed —-- *a* —--Cotton, Va. 8 *a* 9½-——Louisiana 11 *a* 13 —Alab. 9½ *a*. 11—-Tenn.. 8 *a*. 10—--N. Car.. 9 *a* .9½—— Upland 8 *a* 9½-Whiskey, hhds. 1st p. 32½ *a* 33—; in hbls 34 *a* 35---—Wool, *Washed*, Prime or Saxony Fleece 58 *a* 67; American Full Blood, 52 *a* 58; three quarters do. 45 *a* 52; half do. 40 *a* 45; quarter and common do. 35 *a* 40. *Unwashed*, Prime or Saxony Fleece, 36 *a* 40; American Full Blood, 34 *a* 36; three quarters do. 32 *a* 34; half do. 30 *a* 32; quarter and common, 27 *a* 30-—— Hemp Russia ton, $255 *a* —; Country, dew-rotted, 5½ *a* 7c. lb. water-rotted, 7 *a* 9c.—Feathers, 35 *a* 36; Plaster Paris per ton, 4.00 *a* 4.12½, ground, 1.37½ *a*-— bbl. Iron, gray pig for foundries per ton 33.00 *a* ——; high pig for forges, per ton, 28.00 *a* 30.00; bar Sus. per ton, 72.50 a 80.00.—Prime Beef on the hoof, 5.00 *a* 5.25—Oak wood, 3.00 *a* 3.25--Hickory, 4.25 *a* 4.50—Pine 2.00 *a* 2.25.

CONTENTS OF THIS NUMBER.

Management of Farms in England; Reports of Select Farms, No. 1, by Henry Gawler, Esq. of North-Shire; Description of the Farm; Rotation of Crops—Valuable results from Ditching—Mr. Meade's Frederick Sheep—To Prevent the Destruction of Wheat by the Weevil—On Forcing Figs—On the Management of Fruit Trees—On the Utility and Beauty of Flowers—Curious Fact—The Road Horse—-Remedy for Red Ants—To Make Perry—Recovery from the Effects of Carbonic Acid Gas, or Damps in Wells—Sale of Wool in New York—Editorial—Prices Current in New York, Boston, and Baltimore—Advertisements.

EDITED BY GIDEON B. SMITH.

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TERMS.

1. Price five dollars per annum, due at the middle of each year of subscription.
2. Subscriptions are in all cases charged *by the year*, and never for a shorter term.
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☞ All Postmasters are requested to act as agents for the Farmer: they are authorised to retain $1 for each new subscriber, and 10 per cent. on *all other* collections.

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AGRICULTURE.

MANURES.

Westmoreland County, Va.
August 11, 1831.

Mr. Smith:

I am engaged in making extensive experiments with marsh mud, Indian banks, or partially decomposed oyster shells, which are found in great abundance on the margins of many of our creeks, and kelp or sea-weed, which is thrown in great quantities upon the shores of the Potomac, by almost every tide. These abundant and convenient resources for fertilizing our lands, have hitherto been almost totally neglected by the farmers in this part of the country; and in making my experiments I am entirely unaided by the results of the experience of others. In applying the marsh mud, the plan recommended by Judge Johnson of South Carolina, in the 11th vol. of the American Farmer, has been pursued, and I have no doubt will be successful. The partially decomposed oyster shells have been applied in the manner in which marl is used in different parts of the United States. In the application of the kelp I have experienced more difficulty, having been unable to find any practical treatise upon that subject. To my surprise, although this manure has been used with great effect as I have been informed, for many years, in different parts of Maryland, there is not a line to be found in the American Farmer upon this subject, with the exception of the communications from Thomas Griffin, Esq. of York Town, Virginia, contained in the first volume of that valuable work. A practical essay upon this subject, by some intelligent agriculturist who has used this manure extensively, would be of vast service to the farmers upon the sea-board, and upon the salt-water rivers, where this valuable "*weed*" may be obtained in almost inexhaustible quantities. I should be much gratified by information particularly upon the following points. What is the best season for applying the sea-weed? Is it most efficacious when applied in summer, winter, or spring? Should it be applied fresh as taken from the river, or after standing in heaps until partly decomposed? Is it true that wire grass is introduced by its use? Should it be turned in immediately, or left upon the surface until the earth is tilled for a crop? The plan which I am pursuing, is to distribute the weed regularly in the water furrows of an old cornfield, as soon as convenient after it is carted out, and to list immediately upon it, to protect it from the rays of the sun. I put from 70 to 100 loads, drawn by two yoke of oxen upon an acre.

Since the beginning of the present year, I have kept a cart, a man and a woman, and two small boys who could do nothing in the field, constantly engaged in collecting and carting out manure of various kinds, and at this time, which is a season of comparative leisure with farmers, I employ an additional cart, and a few additional hands, and with my short experience I can confidently say that the labour thus employed is ten times more productive, than it would be in any other work upon the farm. I yesterday stood by for two hours, where my carts were carrying kelp from the river shore, and in that short time twenty-one loads, averaging about 20 bushels, were carried out. The distance of course was short, and the kelp abundant, so that little time was lost in loading. I have little doubt that with the force exclusively devoted to this business, and with occasional assistance from the farm hands, I shall be able to manure at least one hundred acres annually. This may be startling to those who have paid little attention to the improvement of the earth, but it is not more incredible than the account given by Mr. Singleton of the Eastern Shore of Maryland, in the 2d vol. of the Farmer, of the great improvements effected upon his farm, with comparatively limited means. The accuracy of that account I was at one time disposed to question; I am now thoroughly convinced of its truth. You may find some valuable information upon this subject of kelp as a manure, in the 1st vol. of the New Edinburg Encyclopædia, art. Agriculture, page 270, by transferring which to your columns, you will probably benefit your readers.

When my experiments are sufficiently matured to enable me to afford any useful information to the public, I may trouble you with a communication under my proper name; but for the present being merely seeking information from others, I subscribe myself your obedient servant, Potomac.

Re Rustica, No. V.

In the absence of original matter for the essays under this title (suspended, but not abandoned) the writer of Re Rustica will offer to the readers of the American Farmer, some extracts from the agricultural works of Columella, a Roman author, who flourished about the 40th year of the Christian era. They are offered chiefly as matters of curiosity, yet they will be found to contain some useful hints and precepts.

(From Book I. Chap. VIII.)

Of Bailiffs or Overseers.

Choose not your bailiff from among servants who have exercised city trades, or been accustomed to the sights and sports of the *campus martius* and the *circus*, or to dice, tippling houses or stews: but choose one who has been hardened to rural labour, and of good mental capacity. He must be past the prime of youth, but not old: if young, he will lack authority; if old, vigour. If illiterate, provided he have a tenacious memory, he will do his business conveniently enough, and will bring money to his master instead of a book; and besides, will not be able to forge accounts. Whatever he is, assign him one of your women for a help mate. Let him offer no sacrifices but by order of his master, nor admit diviners or cunning women into his house, as they may lead him to expense and flagitious practices. He must not be a rambler to go out of his bounds, and must know nothing of the city but to buy and sell. He must suffer no foot paths in the land, and entertain no guests, and have no prattling acquaintances. He must keep the tools in order and in place, and borrow nothing, because more is lost in the time of the servants than the price of the things. He must keep the servants neat, and see that they have leather coats with cowls to keep off the rain and wind. Let him cherish those slaves that are good, and sometimes spare those that are not so good as they ought to be, that he may gain their confidence, rather than be hated for his cruelty. He must keep them from faults by diligence, for exacting work is the strongest guard upon the wicked, and if they are worked well they will rather sleep than steal when their labour is over. Let him not eat but in the sight of the servants, and eat nothing but what the rest do, for then the bread will seem to be well baked. He must have no trafficking or business of his own, and then his master's money or accounts will never go to balance his. He must not be too self-wise, but see with his master's eyes. He must examine the slaves that are chained in the work houses, examine narrowly if they are secure, and their places of confinement strong; see if any one is bound without the bailiff's or the master's knowledge, and release no slave from his fetters but by permission. Let him see that they are not cruelly treated, but examine their clothing, and taste their food. When the bailiff shall have faithfully served, let him in his old age be provided for and honoured by his master.

OF THE BAILIFF'S WIFE.

Xenophon, the Athenian, wisely discoursed that the matrimonial union was highly agreeable and useful, and Cicero, not long ago (who translated him into Latin,) has also discoursed profitably thereon. To man is allotted the labours out of doors, and to woman to take care of what is brought into the house. Formerly the mistresses did review the affairs of the household, but since the ancient custom of these Sabine and Roman families has grown out of fashion by the luxury and idleness of the present times, the office of the bailiff's wife has crept in as necessary.

The bailiff's wife ought to be young, but not too much of a girl, for reasons given when speaking of the age of a bailiff. She ought to be of sound health, neither ugly nor yet exceeding beautiful: ugliness will make her mate loathe and abhor her, and too great beauty will make him lazy and slothful. Therefore we must take care that we neither have a bailiff that is unsettled and always wandering abroad, nor on the other hand, one that loiters at home, always lolling in his wife's arms. She must not be addicted to wine, delicious fare, superstitions, sleepiness, drowsiness, and keeping company with men, but observe the manner of acting, we commanded for the bailiff. She should use her endeavours that the bailiff have little employ in the house, his business being to go forth with the servants early in the morning and return with them in the twilight. Whatever things are brought into the house she must see laid up in proper and wholesome places. The highest room requires the vessels and clothes of the greatest value: a dry store-house is proper for corn; that part of the house which is cold is best for wine; that which is well lighted for brittle furniture and for the doing of work in. She must lay every thing in its proper place so that she may readily lay her hand upon it when there is occasion, for it is an old proverb, *that the worst poverty is, the not being able to use what we have*. The lazy and negligent have double the labour of the industrious and careful. Nothing is more beautiful and necessary than order and regularity as you may observe at the shews, for when the chorus of singers do not agree in measures, and cadences with the master who beats time there is grating discord and sad confusion. So in an army, a general can do nothing without order: the unarmed man hinders and jostles the armed man; the horseman the foot soldier, and the wagons the cavalry, if they be jumbled together. So in a storm on ship board, and in the hurry of family affairs, it is necessary to have order, that there be no hindrance.

She must search for those whose business it is to be abroad, and if she catches any boggling, sauntering, or skulking within doors, who have escaped the care of her mate, she must send them forth. She must stay in one place but little. She must look to the cookery, see that the ox stalls and mangers be kept clean, open and air the infirmaries. She must come unawares upon the keepers who weigh out the provisions, be present when the shepherds are milking the ewes, or putting the lambs to the dug, and be at the sheep shearing, when she must count the fleeces and compare them with the sheep. On rainy and frosty days when the women cannot go out to work she must set them to comb the wool and to spin and weave. She must see that the shoes are made, and take care of the arms, darts, and arrows, and keep the iron bright and clear of rust.

OF THE SLAVES.

Genius and temper, though necessary in a herdsman or ploughman is not enough unless the hugeness of his voice and bulk make him formidable to the cattle. But let clemency regulate his strength: he should be more terrible than cruel. The tall long-legged men should be put to the plough-tail. They can follow and handle the plough without fatigue, and will not lean upon it to be dragged along as short fellows will. A drudge may be of any height. Vine dressers should have long arms, and if wicked, it is the common opinion, they will do as well as any other, as they work in *Decuries* under the eye of a monitor. For the most part wicked fellows are of a more quick and active spirit which the work requires, therefore vineyards are commonly worked by slaves in chains. Nevertheless a sober man, of the same nimbleness, will do better than a rogue.

The servants must be put in classes of ten each, (Decuries) with a monitor to lead. This division favours emulation and ensures government.

(From the Library of Useful Knowledge.)

REPORTS OF SELECT FARMS, No. 1.

By Henry Gawler, Esq. of North-shire.

(Continued from page 180.)

4. *Grass.*—The grass crop succeeds the barley, and consists, generally, of the common red-clover and rye-grass mixed, or of sainfoin.

The first quality of soil is that on which the clover is most productive; but on all of them this crop is uncertain. An alternation of wet and frosty weather during the winter frequently destroys a considerable portion of the plants; and a dry and cold spring impairs their strength to such a degree that no favourable weather will afterwards restore their vigour.

Rye-Grass.—Under these circumstances, the rye-grass often constitutes the main bulk of the crop when the field is mown. It is much more hardy than the clover, and contributes to shelter and protect its companion. With all these disadvantages, however, no substitute has been found to supply the place of clover, and it continues to hold its station steadily in the rotation of crops. A portion of it is generally fed off by the lambs and ewes, and the remainder is cut for hay as soon as the rye-grass blooms. Farmers in this district are sometimes tempted to leave it standing, in hopes of rain and increasing growth, to a period rather later; but the augmentation of bulk during so short a period cannot compensate for the loss sustained in the succulence and tenderness of the stalk. In a very short time after the appearance of the bloom, the stem of the rye-grass becomes fibrous, hard, and dry, loses in weight, and is far less acceptable to cattle, and less nutritious. The same observation applies to the clover; but in clover, the process towards maturity is not so rapid; its succulence is not so soon exhausted, and more delay can be allowed. On this farm, however, the moment the rye-grass forms its bloom, cutting is commenced, unless the weather should be wholly unfavourable; and experience has confirmed this system, upon an average of years, to be the most advantageous. This crop forms a considerable portion of winter store for the feed of sheep, and when it happens to prove very deficient, exposes the farmer on these soils to difficulties, and sometimes compels him to send a portion of his stock during several months, from November to April, to districts where richer soils produce more abundant crops. Such lands are found in Wiltshire, within the distance of twenty or twenty-five miles, and sheep are usually kept well upon them, at an expense varying from six shillings to eight shillings per head, for the season.

Sainfoin.—All the soils upon this farm are well suited to sainfoin, but it certainly grows with more luxuriance on the compact, gravelly clay, of the depth of ten or twelve inches, lying in contact with the substratum of chalk. The sainfoin will not flourish on deep clays which hold much moisture, and which are not drained by some sub-soil of a less retentive nature; but on the shallow clays, resting on chalk, or limestone, it is very productive. On such soil it grows with a stem and leaf more rank and coarse, than on the second and third qualities of land; but the hay made from it is better calculated for horses than for sheep.

The sainfoin is the most valuable artificial grass this district possesses. The dryest seasons rarely essentially injure the crop; the most wet appear only to increase its luxuriance of growth, and thus, under all circumstances, it may be depended on, if it can be converted into hay, as a certain resource for a farm. No food is more grateful to sheep; and the horses, if liberally fed with it, are kept in good working condition without corn. It remains longer in the stack uninjured, than clover and rye-grass hay, which is generally less condensed; it is penetrated by wind and heat with less facility, and a less portion of its nutritious qualities is carried off. Sainfoin hay, when stacked in good condition, is equally good in the third year.

The sainfoin should be cut as soon as the main bulk of the flowers are ready to open; when cut in this state, and made into hay, it weighs more, lies much closer in the stack, and is far more nutritious than when permitted to remain till some of the flowers have expanded, and begin to fade. The loss in apparent quantity is amply compensated by the better quality of the hay.

The plant of sainfoin does not till after the second year arrive at its full vigour and strength, and therefore it is usually, in this district, sown intermixed with the hop-clover, to make up the crop; but it is doubted whether this practice is beneficial. The sainfoin plant is evidently weakened and stunted by the overpowering growth of the clover, which arrives at maturity in its second year; and it is questionable whether the sainfoin ever recovers the injury it thus sustains. As the sainfoin is intended to remain for five, or perhaps six years, and is to be considered as the main object of attention, and injury which spreads its effects over three or four years, by a diminution in the crops during that period, cannot be compensated by the supposed addition of a third, or a fourth, to the crop of the second year. In all cases on this farm where the experiment has been tried of sowing the sainfoin alone with the barley, the plants have invariably been more healthy, stronger, and more numerous, than when mixed with the hop-clover.

The sainfoin plant is generally permitted to remain five or six years from the time of its sowing; but this period is often too long. The propriety of leaving it for more or less time must depend on the quality of the soil,—on its being in high or poor condition, clean or foul; on the compact, gravelly clay, it would last the longest, as being the best soil; but other grasses, the natural produce of such soils, spring up, and in the fourth year begin to form a close tissue or mat about the top of the sainfoin root, which evidently obstructs its free growth, and smothers and destroys a large portion of the weaker plants. On the land of the second and third qualities, the grasses natural to the soil rise less abundantly, and the sainfoin suffers less from their contiguity; but the sainfoin plant itself on these second soils is sooner exhausted, and becomes less productive.

It is doubtful whether a sainfoin lay should not, at all events, be broken up at the end of the fifth year; and in most cases, at the end of the fourth; and this system has been generally adopted on this farm.

In this district, the main difficulty attending sainfoin arises from the necessity of sowing it on a soil on which it has not been planted for at least eight or nine years. All plants used in agriculture evidently benefit by permitting considerable periods of time to intervene between their course of sowing; but in many sorts, as in wheat, and barley, or oats, manure will restore, in a great degree, those ingredients in the soil, which former crops of the same grain may have exhausted; but no species of manure has yet been found in this district to supply that particular nutriment which sainfoin demands, and of which its growth has deprived the soil; and the land must be permitted to acquire gradually those aliments, whatever they may be, which constitute the food of this plant.

The clover, in some measure, in this respect, partakes of the nature of the sainfoin in this district. It is generally the crop of every fourth year; but the best farmers admit, that even this interval is not sufficiently long to obtain a crop proportionally abundant with those of the intervening grain; and that the highest state of cultivation, in as far as it depends on manure, will not supply the defect of longer intervals between the sowings. They are compelled by necessity alone to follow their present system, as no substitute has been as yet suggested, which is consistent with the rotation of other crops.

The best crops of sainfoin in this district do not exceed two tons and a half per acre, and probably upon an average of a number of years, no farm produces more than a ton and a half, or between that quantity and two tons per acre.

It is difficult to conceive by what means any considerable stock of sheep could have been kept here, previously to the introduction of turnips and sainfoin into common use, both of which were little known a century ago. This country consisted, at that period, of large tracts of down, now broken up, which afforded a subsistence for the flocks in summer, but in the winter, they must necessarily have resorted to the richer pastures of other districts, where the natural grasses afforded a sufficient growth to make hay.

MEADOW-LAND.

The natural meadow ground in this district bears a very small proportion to the arable, and hardly enters into the account of a system in the distribution of a farm. Upon the farm now described, about fourteen acres of gravel, mixed with dark, loose mould, were highly manured and well cleaned, and laid down twenty years since with varieties of grass seeds in great abundance, collected from the growers near London, and of the sorts which, according to the doctrines then prevalent, were held to be best adapted to the soil. They flourished for four or five years, and promised to form a permanent meadow, but they gradually disappeared, in defiance of the utmost care and attention bestowed on their management, and were superseded by, or acquired the appearance of, the short and wiry grasses, the indigenous growth of the soil, and formed a turf resembling an ancient down. The feed is at all times wholesome; but, except in very wet summers, not abundant. It disposes the cattle to increase in flesh more than in milk. This portion of the land was chosen for this purpose, from its contiguity to the house; but the other qualities of soil have not been found much better calculated for this purpose, and no attempt to fix the finer meadow grasses in them permanently, has succeeded.

None of the soil upon this farm is well suited to potatoes. Upon the third sort of land their quality is excellent, but the crop is never abundant, and cannot be cultivated for profit. An acre is however always planted for the use of the family and the carters and men who reside at the cottages contiguous to the house.

STOCK.

The stock in general best adapted to this land are, the Alderney, and smaller race of Norman cows. The Devonshire and larger breeds require richer pasture; and although they are kept in condition, the milk they give is by no means in proportion to the bulk of food they consume. The Norman and Alderney cattle appear to be less affected by the quality of the herbage. It has been customary on this farm to keep one cow of the Devonshire breed, with three of the Norman or Alderney, and to mix the milk, on the presumption, that by being this diluted, it produces better and a larger quantity of butter. The cream is skimmed, and scalded over a stove, before it is churned. This process certainly renders less churning necessary, gives the butter more flavour, and increases the quantity. In a district where meadow land is scarce, butter generally bears a high price, and perhaps no part of the farm described is so profitable as the small portion of it allotted to the dairy.

Sheep.—The sheep kept on this farm are usually called South Downs; but they are not the pure race, they are larger, and weigh, when in the usual condition for the butcher, from 60 lbs. to 70 lbs., and sometimes more. They are extremely docile and manageable, and are perhaps better calculated by their weight to knead and condense the soil than those of a lighter description. Their fleece averages about 3¼ lbs. for each sheep; the wool is short and varies considerably in fineness according to the keep. Where their food consists of artificial grasses and turnips, the wool is much coarser than of those which are pastured principally on Down lands, and have to work harder for a subsistence. The practice of folding is indispensably necessary to farming in this district, and no system has been suggested which can supply its place. The wool is, however, probably injured by the continual exposure to the alternation of wet and severe frost during the winter, and it certainly bears no comparison in colour, fineness, softness, and beauty, to that shorn from flocks which are sheltered and housed during inclement weather.

Lambs.—It is the common practice here to expose the ewes during the season of lambing in folds in the open fields, without protection from the fall of rain or snow. This is the consequence of the habitual thoughtlessness of the farmers, who, being accustomed from early education to spare all the labour and trouble that absolute necessity does not enforce, neglect the precautions which more vigilance would suggest. The loss of lambs, upon an average, amounts to near one-fifth of the whole. Common sense would appear to indicate the prudence of affording a dry spot on which such tender creatures as new-born lambs may be deposited until they have gained some strength. The ewes suffer at this period nearly as much, and are often attacked by fevers, which affect their milk and destroy its wholesome and nutritious quality. A fold, under these circumstances, in wet weather, exhibits as dreary and dismal a spectacle as can well be imagined, the lambs trembling with cold, and the maternal affections of the ewes half extinguished by their own suffering. The system is justified by the farmers, on the ground that it renders the flock hardy; but the truth is, that none but the strong survive the treatment, and probably their constitutions are injured by it.

The sheep with black faces are the favourites of the farmers; but it seems a doubtful test of their merit, whatever it may be as to their beauty. About fifty or sixty years past, a sort of sheep called the Wiltshire, of greater size than the largest Dorset and Somersetshire sheep, with much more bone, and longer legs, constituted the flocks of this country. They were enabled from their strength and length of limb to ramble over the extensive downs which have since been broken up. The increase of arable land has banished this ugly race; some specimens, however, even now occasionally appear at fairs, which frighten the delicacy of modern farmers, accustomed to better models.

Pigs.—The common run of pigs in this district are by no means remarkable for their beauty. They are generally of a light colour, marked with large black or red spots, or in large divisions of black and white. They are of a hardy, enduring, and active nature; draw their subsistence from all materials they can swallow, and are managed, in general, with slovenly inattention. However, considerable exceptions must be made. The breed is sometimes crossed by the Essex, Chinese, or Neapolitan race, or the pure breeds of these sorts are introduced; but in some few generations, accident or design produces an intermixture, which, after a few more generations, terminates in a recurrence to the common race of the country. Upon the farm described, the event has repeatedly happened, and it is believed that, considering the different qualities of each sort, the merits and defects of the varieties are nearly balanced.

Some varieties of pigs evidently fatten more rapidly and upon a less quantity of food than others; this was found to be the case with the black breed from Essex, but the sort was tender, and were not so equal to the fatigue of attending their duty in the stubbles, and appeared to be very sensible to the effect of cold.

Management—It is a common opinion in this district, that pigs are not a profitable stock upon a farm, in a quantity beyond that which is necessary for the consumption of the offal produce which cannot be carried to market. This opinion may reasonably be doubted; and certainly upon the farm described, where they are kept to a larger extent than the usual proportion to the size of the farm, they indisputably give an ample return of profit. A quantity of Swedes is usually reserved for their use. The Swedes are a favourite food with them, and apparently they prosper upon them more than upon any other food which is not the produce of grain or pulse.

In fattening of pigs, an opinion is also entertained, which springs from indolence and thoughtlessness. It is held that changing the litter, and cleaning the sties, protract the time of the animal's arriving at his required fatness, and that filth contributes more to his health and prosperity than cleanliness. This opinion is not the result of experience, for very few persons here have tried the alternative of cleanliness; but it is a theory they have derived from their progenitors, in which they will persist if they be permitted. No analogy of reasoning as to the effects of filth on other animals shakes their belief, and the practice can only be overcome by the determined authority of a master.

ESTABLISHMENT.

The farm described is worked by a bailiff, a head carter, and an under carter, a shepherd, two boys, and two labourers, in constant pay, and seven horses. Except during the hay and hoeing seasons, weeding and harvest, further assistance is seldom required.

The size of the farm described is by no means recommended as a model. The extent of it was unavoidably thus circumscribed. Neither the bailiff nor shepherd has full employment; the bailiff might superintend one hundred and fifty or two hundred acres more, and the shepherd might equally well manage three hundred and fifty sheep. A farm, however, from three hundred to three hundred and fifty acres of arable land, affords ample business for a bailiff, who engages in any portion of the working duties, keeps the men and horses in full activity, and makes the most of their strength. It is as much as his eye and attention can command, if he overlooks all the various proceedings, and by foresight and diligence guards against the casualties which are apt so often to occur from the negligence and careless habits of the individuals who are employed as carters and labourers.

Horses.—The horses selected for the service of this farm rather are of fine bone, above fifteen hands high, with strength quite sufficient for the team and plough, but which move with a quicker step than those with large heavy feet, hairy fetlocks and thick legs, a species however in very common use. The former are also less subject to disorders than the latter. Carters frequently take a considerable interest in the beauty and good looks of the cattle under their management, and from these motives bestow more care upon horses which attract their attention. It requires very superior merit in a vulgar coarse made horse to become a favourite, or even to obtain for it a just share of dressing and food. Beauty in all animals always engages even the most common minds in its favour, and generally it implies some useful corporal quality. The carter's regard for his cattle is purchased cheaply, at the additional expense of a few pounds per head for a horse. Every person the least conversant with farming is aware how completely the horses are at the mercy of the persons who drive, feed, and dress them. It is advisable to consult and indulge their wishes and prejudices, if they lead to no essential mischief: their predilections are sometimes harmless, and it is frequently difficult to subdue or counteract them.

IMPLEMENTS.

Ploughs.—The ploughs of this district are constructed, with the exception of the handles and beam, entirely of iron, and are much reduced in their length and dimensions from those which were employed thirty years ago: they are generally worked by three horses. The binding nature of the soil renders this force so often necessary, that the habit of driving with reins has not become general. So powerful is the effect of custom, that some farmers are yet seen working a soil of four or five inches deep, with four horses dragging the ploughs of the ancient form and unwieldy construction, at a slower pace than with three horses and the modern instrument.

Threshing.—The wheat is threshed on this farm by a machine, and the quickest moving horses are selected for the work; they do more work and do it better. A rapidity of motion is favourable to the threshing the corn clean. Sometimes half-bred horses with a good deal of bone have been employed on this farm; they are difficult to procure at a moderate price, but in the threshing-machine, harrowing, and rolling, they are unrivalled.

The barley is threshed with a flail. The machine is apt to strip it off, and does not therefore bring it out in a state so fit for the market. The two labourers can also be generally sufficient spared from other work for this employment.

The threshing-machine is, of course, a very unpopular instrument, and to the use of it, amongst other supposed abuses, the present comfortless situation of the peasants is often attributed. The train of reasoning by which it can be proved that whatever machine saves expense or labour to the farmer must ultimately lower the price of the commodity it assists in preparing for the market, is not calculated to satisfy the labourer. His mind always recurs to the single point of the lost use of the flail. This aversion to the machine has indisputably had the effect of reducing their number, and still more the use of such as exist.

MANURE.

Different opinions exist respecting the state in which stable and farm-yard manure should be applied; whether it should be carried out fresh, or be permitted to ferment and be decomposed. It is almost impossible to doubt that if an immediate effect be the object, it is better calculated, in a rotten state, to afford nourishment to the plant; but if a permanent benefit to the soil, to a succession of crops, and the amelioration of the greatest extent of land be intended, it is better to apply it as fresh as possible.

By suffering dung to ferment, a great portion of its valuable ingredients are carried off by evaporation, and it becomes much diminished in bulk and weight. The business of a farm does not at all times permit the conveyance of it to the fields for which it is allotted, and a part is thus unavoidably exposed to fermentation, but this process may be retarded by frequent turning and by mixing considerable quantities of mould with it. Mould should always be placed at the bottom of a dung heap, and, if possible, the heap should be covered with it. The moisture is constantly draining downwards, or passing off in the shape of gas or steam from the top. The covering at the top and bed underneath intercept materially this loss. On this farm, the manure during the spring, autumn, and summer, is carried out as fresh as possible. In the winter it is spread in the sheep fold, to protect the stock from the dampness and cold of the ground. If the dung cannot be ploughed in during the warmer seasons, or conveniently mixed with mould, it remains in the yard where it is better protected from the drying effects of the heat and wind than in the field. The plough follows the fold course as quickly as possible.

Sheep.—The common allowance, in this district, for the number of sheep on a farm, is said to be one to each acre, but perhaps few farmers within it upon an average feed near that quantity throughout the year. On the farm described, about two hundred and thirty sheep are constantly fed on two hundred acres of the land, besides the lambs which fall in February, a portion of which are sold in the October following, together with some ewes which are drafted from the stock. Some sacrifices are made for this purpose; a less breadth of corn than the usual proportion is sown. It has happened three or four times in the course of twenty years, when both hay crops and turnips have failed to a considerable extent, so that about fifty lambs have been sent to winter in other places. By this plan of allotting more land than the usual proportion to stock, the arable is kept in higher condition, and the plant on it is enabled by its vigour to resist the mischief to which, in unfavourable seasons, if it were in a weaker state, it would be exposed. The farmers in general are desirous to sow a certain proportion of each sort of corn, without sufficiently referring to the condition of the land. No practice can be more injudicious. The seed and labour are frequently, under such circumstances, thrown away. It is more advantageous to plough, fallow, and clear the land thus uselessly employed, and prevent the accumulation of fresh seeds from crops of weeds which invariably rise amongst a corn-crop, that does not overpower them by its luxuriance of growth.

GENERAL CHARACTER OF THE DISTRICT.

This district contains no land of better quality than that of medium value; consequently, some branches of agriculture carried on in richer land are here unknown. No horses are bred,—no considerable dairies exist,—very few cattle are fatted. Some oxen and cows have been prepared for the butcher, by feeding them in stalls upon Swedish turnips and hay; but even that practice is not common. The grazing-land is found only in small quantities, and the quality of it is seldom good enough to forward the cattle sufficiently before they are put in the stall, much less to prepare them for market, without being stall-fed.

Beans and peas are rarely seen; such crops on these soils are very precarious. It it far cheaper to purchase such articles from districts better suited to their growth.

Notwithstanding the thinness of soil which prevails in this district, the crops suffer less in dry seasons than the appearance of the land would indicate. The chalk is retentive of wet, and communicates its moisture to the roots of the growing crops sufficiently to protect them against the injurious effect of heat, and gives them an advantage, under such circumstances, they would not enjoy in land of better quality.

The inferiority of soil is recompensed, in some measure, by the salubrity of the air. The diseases common to very deep or marshy soils scarcely make their appearance; and except low fevers, originating in poverty and want of warmth, no epidemical disorders prevail. The fields have been mostly inclosed under acts of parliament; are of large dimensions, and of a regular, uniform appearance. The hedges are not thick or high, or mixed with timber trees. The whole country is fully exposed to the currents of wind, and in wet seasons the corn is far more easily secured than when a luxuriant growth of timber, woods, and fences impede the motion of the air.

Drill-Husbandry.—The experiment of the drill husbandry was tried on this farm for a succession of years. Neither diligence, patience, nor expense, were spared, and occasionally the drilled crops were superior to the broad cast; but it required a combination of favourable circumstances to produce this result. Upon the compact gravelly clay, the difficulties in wet seasons were insurmountable, and a season was sometimes lost in expectation of weather suited to the drill. Whatever may be its advantages on loamy or sandy soils, it certainly does not succeed on a farm consisting of the soils the nature of which has been described. It has been tried by other persons of this district; but as a system for a whole farm, no one has persevered in it. From the time of Tull (the founder of the drill husbandry,) some writers have continued to recommend the practice upon soils of all natures, and attributed the neglect of it to the ignorance and obstinacy of the farmers; but notwithstanding these high authorities, unless instances could be produced of its success upon land like that of this district, it will be doubtful whether the writers or farmers are most deserving of such imputations.

(To be continued.)

IMPORTANCE OF EARLY SOWING.

Mr. Fessenden:—Having noticed for a number of years past that late sowing or planting seldom answered as well as early, my belief has been more strengthened of late by the following facts.

On the 15th July, 1830, I sowed on a piece of ground of about one and an half acres, six pecks of buckwheat, and the same quantity of rye, mixed and sowed together; I also at the same time sowed clover seed in the chaff on the same piece, and harrowed the whole in. The clover took and grew well; the buckwheat was harvested at the usual time, but owing to the severe drought it produced but an indifferent crop; the rye grew large and branched out full, some of the stalks, were more than eight feet long, a number of the stools produced sixty, eighty, ninety, and one, one hundred and ten stalks with one hundred good ears or heads. One stool was taken up on the 2d instant, and shelled on the 9th, and counted by two respectable witnesses, and the number of grains was seven thousand two hundred and eighty five, and measured about half a pint from a single grain.

If you think the above worth publishing you can give it a place in the New England Farmer.

Seth Couch.

Kingston, Ulster Co. N. Y. July 20, 1831.

ON GRASS LANDS, CLOVER SOWING, &c.

It is admitted on all hands that one of the most difficult parts of the farmer's duty is, "laying down" regularly and successfully grass lands. John H. Powel, an intelligent and experienced farmer of Pennsylvania says, that in this country there is not usually more than half the quantity of seed sown that should be to insure success—that from experience he has found that three half pecks of clover-seed mixed with two bushels of orchard grass seed is in no instance too much to sow on an acre of land—that by putting in this quantity, by light harrowing and rolling of the ground, if the weather and soil be in a proper state, immediately after sowing, will secure its vegetating and improve the grass. Autumnal top dressing with long manure, may be profitably applied to protect young clover, particularly if it has been pastured. A double advantage is obtained by using abundant supplies of seed; the hay is finer, and of course more nutritious, and when the crop is taken off, the soil is less exhausted from the rays of a hot sun.—*N. E. Farmer.*

HORTICULTURE.

(From the New England Farmer.)

GARDENS IN EUROPE.

Notes and Reflections made during a Tour through part of France and Germany, in the Autumn of the year 1828. *By* J. C. Loudon.

The Market Gardens of Paris (les Jardins Marais) are numerous, generally of small extent, and cultivated by manual labor; but a few of them may be designated Farm Gardens, in which are used the plough and other agricultural implements. As vegetables enter more into the cookery of France than they do into that of England, an immense quantity is consumed at the hospitals and similar institutions; and, in consequence of this, the more extensive market-gardeners employ their produce chiefly in executing contracts entered into with public bodies. With this exception, the produce of the Paris market-gardens is sold in the vegetable markets, as in London. There are several of these, but none so decidedly superior to all the others as to be compared to Covent Garden Market. The Marché des Innocens appeared to us one of the largest. We visited it twice, on September 13th, and December 20, and shall note what we saw in it on those days, with the conclusions which we drew.

La Marché des Innocens.—Sept. 13. The area exceeds an acre, and is surrounded by a quadrangular range of sheds, open on both sides, with a walk in the centre. In the inclosed area, potatoes and other roots are sold, as in the area of Covent Garden Market. We shall compare the supplies of the two markets about the same season of the year.

The Cabbage Tribe.—An abundant supply, but the variety not great, and the kinds coarse and not well headed. Very large Savoys, some red cabbages and field-cabbages, and also some broccoli and cauliflower. On the whole, the markets of London, Edinburgh, and Strasburgh, which we have seen at the same season (Edinburgh in 1803, and Strasburgh in 1819,) were rather better supplied than the Marché des Innocens. The deficiency appeared to be in the quality of the kinds of cabbage and broccoli.

Legumes.—Ripe pods of kidney beans, but none green, and no common peas in pods. Decidedly inferior to British markets.

Tubers and Roots—Abundance of potatoes, but the sorts not such as would be considered good in Britain. Quantities of Jerusalem artichoke, scorzonera, black radishes, Teltow turnip, solid celery, carrots, parsnips, succory roots, and others. The variety much greater than in Britain, and the quality of every article, except the potatoes and carrots, equal, if not superior.

The Onion Tribe.—An abundant supply of both onions and leeks, and also a quantity of shallots and garlic. The leeks smaller than in Britain.

Asparaginous Plants, Salads, &c.—A few artichokes, and some half-blanched celery, lettuce, endive, lamb's lettuce, and other salads. The variety greater than in Britain, the supply more abundant, and the quality superior.

Pot and Sweet Herbs.—Abundance of parsley of a coarse sort, tarragon and all our other aromatic herbs, capsicums in quantities, tomatoes, and egg-fruit. The variety and supply both greater than in Britain.

Fungi.—Abundance of mushrooms, and some truffles.

Fruits for Tarts and Pickling.—Large quantities of white cucumbers (concombres,) of pickling cucumbers (cornichons,) gourds, and pumpkins, in great variety, of all sizes, but we did not observe the vegetable marrow. On a par with British markets.

Fruits.—Abundance of apples, chiefly Colvilles; and of pears, chiefly bon chrétiens and bergamots; rock and Cantaloup melons, Chasselas grapes, peaches, figs, and plumbs; pear-shaped sorbs, sold at about a sous each; and a great quantity of very excellent alpine strawberries. The last article is the only one in which this market excelled that of Covent Garden; in all the other fruits it was much inferior.

Adjoining the market are shops, in which are sold pistachios and other dried fruits, oranges, nuts, &c. carrots, dried pears, plums, apples, and apricots. The onions and carrots are charred so as to become as black as ink: this effect is produced by baking them slowly in an oven, and taking them out at intervals during several days. They are used in cookery for coloring soups.

Sprigs of orange tree in blossom are, we were told, to be found in this market throughout the year. These are considered essential accompaniments to the dress of bridal parties; and although artificial flowers, perfumed with orange-water are sometimes employed by those who cannot afford the living article, yet the latter is by far the most generally used.

On the whole, the supplies of the Paris vegetable markets are inferior in point of excellence to those of London. The quality and variety of fruits are greatly inferior, and also the dryness and flavor of potatoes, and the succulency of turnips, cabbages, and the other common culinary vegetables; but the Paris markets approach to equality with those of London, in mushrooms, salads, and aromatic herbs, during summer, and surpass us in those articles during winter.

December 20.—Observed a great quantity of excellent cauliflowers; endive and chiccory, blanched in different degrees, lamb's lettuce, scorzonera, Teltow turnips, solid celery, common white turnips, very long leeks; onions, rather small; excellent field cabbage, in immense quantities; savoys, large heaps of mushrooms, and, to the best of our judgment at the time, every vegetable seen in the London markets about the same season, with the exception of brocculi, seakale, asparagus, and forced rhubarb. The fruits were Chasselas grapes, Colville and reinette grise apples, a few indifferent pears, different kinds of service, cornel berries, walnuts and filberts, and sprigs of orange-blossoms, as in September. It is but fair to mention that we failed in being at the market sufficiently early in the morning to see things in their best state. We shall now glance at some of the market gardens.

The Field Market Garden of M. Cadet de Mars, at Aubervilliers.—Oct. 4. Aubervilliers is a small village, about a league from Paris, and M. Cadet de Mars' grounds occupy 50 or 60 acres round it. This gardener has been repeatedly mayor of his village, and he is unquestionably at the head of field market-gardeners in the neighborhood of Paris. He was, as he told us, a peasant; but it is impossible to see his imposing manly figure and open generous countenance without feeling that he is noble by nature. He is upwards of seventy; and he began the world without a penny, and without education; but he is now proprietor of the grounds which he cultivates, besides houses and other property. He has lately ceded his grounds, with the exception of a few acres for his own amusement, to his children, and lives quietly with his wife, an excellent woman, about twenty years younger than himself. This old man is full of gayety and spirits, content with his past life, and apparently happy. He has always had the greatest curiosity respecting other countries, and this still breaks out every time he sees a foreigner. He told us that he would travel through England, provided his wife would accompany him. He once went as far as Havre with a friend who was going to England, for the sake of seeing the sea, and he speaks with raptures of the visit. He takes an interest in all that is passing in the world, and spoke much of America; the government of which he admires beyond that of all other countries, and which he hopes that France will one day adopt as a model. He spoke much of the first revolution, of which he had witnessed many of the most interesting scenes. In politics and morals, indeed, he is far beyond his contemporaries; and is, in short, as far as an unlettered man can be, all that Jefferson or Lafayette could wish him to be. He made his fortune chiefly by taking large contracts to supply the hospitals. The largest contracts he ever had were made with the Hospice Salpêtriére; for which on gourd-day, i. e. the day on which the vegetable used in the soup served to the inmates is the pompkin or the gourd, he used to supply 6000 lbs. He has had a fruit of the mammoth gourd which weighed 195 lbs. He had also large contracts with the manufacturers of sugar from the beet root; especially during the years 1812 and 1813, when the price of sugar in Paris was 5f. per lb. These companies failed, for the most part, in 1814 and 1815, when sugar fell to 14 sous per lb. His sons still cultivate large quantities of mangold-wurzel for feeding cows; and it deserves to be remarked, that these cultivators, and also others in their neighborhood, who formerly used to gather a part of the leaves to sell as fodder while the plants were growing, have now left off the practice, from finding that it lessens the size of the roots.

In the field-garden culture practised here, and in other field-gardens in the neighborhood of Paris, the soil is ploughed for the crop with a two wheeled plough, but all the operations of cleaning and gathering the crop are performed by manual labor. Irrigation, either by manual labor or by channels on the surface, is seldom resorted to. There is no regular rotation of crops; but in general, after three or four crops of vegetables, a crop of wheat is taken, or the land is sown with lucerne, under which it remains from two to five years. Turnips are seldom sown in the spring because the drought and insects destroy them; but in August, after the crop of peas, wheat, or rye is removed, they are sown with sucess. Onions and leeks are sown together in February: neither grows large. The onions are removed early in September, and the leeks remain to be taken up as wanted. Small leeks are preferred in the Paris market, as having more flavor; and the same as to onions and asparagus. Where the soil is deep, soft, and inclined to moisture, the marshmallow is cultivated for the apothecaries, and found to pay well, because suitable ground for this plant is rare on secondary limestone. Asparagus is grown in single rows along the bottom of shallow trenches, and, instead of covering the plants during winter as we do in England, their crowns or buds are laid almost bare, so as to receive the first influence of the sun in spring. As the plants begin to push, they are earthed up. A part of the grounds is planted with vines, in rows about three feet apart, between each row of which is a row of asparagus; and in the rows of vines are asparagus plants, which alternate with the vines. When the vines are in fruit, the stalks of the asparagus are tied together in bundles, to admit more air to the vines. On expressing our surprise at the practice of laying bare the buds of asparagus during the winter, M. Cadet de Mars acknowledged that highly succulent varieties of asparagus, grown in deep richly manured soil, such as might be seen in some private gardens, and particularly in that of the king at Versailles, would suffer from this practice; but that field-asparagus, such as that before us, was nearer a state of nature, and suffered no injury. He observed that a covering of earth or litter, while it prevented the escape of heat, at the same time prevented its entrance; and he gave, as an instance in favour of the practice, the well known early flowering of bulbs planted on the surface, as done with crocuses about Paris, in comparison with those which are inserted some inches deep in the soil. He is of opinion that cold serves to force forward plants as well as heat; having remarked that, after a very severe winter, provided it were short, bulbs flowered earlier, and asparagus was ready to cut sooner. Of course, this doctrine can only apply to very hardy plants, but, relatively to them, it appears to be one well deserving the consideration of British gardeners.

In the grounds which M. Cadet de Mars has retained for his own amusement, there is a wall covered with peach and apricot trees, very well trained in the fan manner. Along its top there is a projecting trellis, supported, at an angle of about 60°, by struts abutting against the wall, about two feet lower than the top; and this trellis is covered with vines. The upper parts of the peach and apricot trees were evidently injured a little by the shade of the vines; but we were told that the latter were of some use to the former in spring, by protecting their blossoms from perpendicular cold. The trellis was loaded with grapes, which from the path in front, had a very rich appearance. There were a great many dwarf apple trees in this garden, trained *en gobelet;* the sort preferred was the reinette de Canada. Behind M. Cadet de Mars' house is a small walled garden, formerly, if we are not mistaken, the burying ground of a religious establishment, the church of which is now one of M. Cadet de Mars' barns, and is filled with apples and onions. There are some very large standard apricot trees in this garden, and a very old vine, which bear abundantly; and we saw a stack of onions as large as a haystack. The onions are stacked by alternating them with thin layers of rye straw; the straw at the outside of the stack being doubled in over the onions, so that none of them appeared to view. We have seen carrots stacked in the same manner with wheat straw in England.

RURAL ECONOMY.

(From the Library of Useful Knowledge.)

THE FARMER'S HORSE.

The farmer's horse is an animal of *all-work;* to be ridden occasionally to market or for pleasure, but to be principally employed for draught. He should be higher than the road horse. about fifteen hands and two inches may be taken as the best standard. A horse with a shoulder thicker, lower, and less slanting than would be chosen in a hackney, will better suit the collar; and collar-work will be chiefly required of him. A stout compact horse should be selected, yet not a heavy cluddy one. Some blood will be desirable, but the half-bred horse will generally best suit the farmer's purpose. He should have weight enough to throw into the collar, and sufficient activity to get over the ground.

Farmers are now beginning to be aware of the superiority of the moderate-sized, strong, active horse over the bulkier, but slower animal of former days. It is not only in harvest, and when a frosty morning must be seized to cart manure, that this is perceived, but, in the every-day work of the farm, the saving of time, and the saving of provender too, will be very considerable in the course of a year.

It has often been said, that a horse used much for draught is neither pleasant nor safe for the saddle. The little farmer does not want a shewy, complete hackney. He will be content if he is tolerably well carried; and (if he has taken a little care in the choice of his horse; has selected one with sound feet, shoulders not too thick, and legs not too much under him; and, if he keeps him in good condition, and does not scandalously over-weight him.) the five days carting or harrow-work will not, to any material degree, unfit him for the saddle: especially if the rider bear in mind what we have termed the golden rule of horsemanship, always *a little to feel* the mouth of the animal he is upon.

A farmer, and, more particularly, a small farmer, will prefer a mare to a gelding, both for riding and driving. She will not cost him so much at first; and he will get a great deal more work out of her. There can be no doubt that, taking bulk for bulk, a mare is stronger and more lasting than a gelding; and, in addition to this. the farmer has her to breed from. This and the profit which is attached to it is well known in the breeding counties; but why the breeding of horses for sale should be almost exclusively confined to a few northern districts it is not easy to explain. Wherever there are good horses, with convenience for rearing the colts, the farmer may start as a breeder with a good chance of success.

If he has a few useful cart-mares, and crosses them with a well-knit, half-bred horse, he will certainly have colts useful for every purpose of agriculture, and some of them sufficiently light for the van, post-chaise, or coach. If he has a superior mare, one of the old Cleveland breed, and puts her to a bony, three-fourths-bred horse. or, if he can find one stout and compact enough, a seven-eighths, or a thorough-bred one, he will have a fair chance to rear a colt that will amply repay him as a hunter or carriage-horse.

The mare needs not be idle while she is breeding. She may be worked moderately almost to the period of her foaling, and with benefit rather than otherwise; nor is there occasion that much of her time should be lost even while she is suckling. If she is put to horse in June, the foaling time will fall, and the loss of labour will occur, in the most leisure time of the year.

There are two rocks on which the farmer often strikes: he pays little attention to the kind of mare, and less to the proper nourishment of the foal. It may be laid down as a maxim in breeding, however general may be the prejudice against it, that the value of the foal depends a great deal more on the dam than on the sire. The Arabs are convinced of this, for no price will buy from them a likely mare of the highest blood; and they trace back the pedigree of their horses, not through the sire, but the dam. The Greek sporting-men held the same opinion, long before the Arab horse was known. "What chance of winning have I?" inquired a youth whose horse was about to start on the Olympic course. "Ask the *dam* of your horse" was the reply, founded on experience.*

The farmer, however, too frequently thinks that any mare will do to breed from; and, if he can find a great prancing stallion, with a high-sounding name, and loaded with fat, he reckons on having a valuable colt: and should he fail, he attributes the fault to the horse, and not to his own want of judgment. Far more depends on the mare than is dreamt of in his philosophy.

If he has an undersized, or a blemished, or unsound mare, let him continue to use her on his farm: she probably did not cost him much, and she will beat any gelding; but let him not think of breeding from her. A roomy mare, with some blood in her, and with most of the good points, will alone answer his purpose. She may bear about her the marks of honest work (the fewer of these, however, the better,) but she must not have any disease. There is scarcely a malady to which the horse is subject that is not hereditary. Contracted feet, curb, spavin, roaring, thick wind, blindness, notoriously descend from the sire or dam to the foal. Mr. Roberts, in that useful publication, "The Veterinarian," says, "last summer I was asked my opinion of a horse. I approved of his formation with the exception of the hocks, where there happened to be two curbs. I was then told his sister was in the same stable: she also had two curbs. Knowing the sire to be free from these defects, I inquired about the dam: she also had two confirmed curbs. She was at this time running with a foal of hers, two years old, by another horse, and he also had two curbs."

The foal should be well taken care of for the first two years. It is bad policy to stint, or half-starve, the growing colt.

The colt, whether intended for a hunter or carriage-horse, may be earlier handled, but should not be broken-in until three years old; and then the very best breaking-in for the carriage-horse is to make him earn a little of his living. Let him be put to harrow or light plough. Going over the rough ground will teach him to lift his feet well, and give him that high and shewy action, excusable in a carriage-horse, but excusable in no other. In the succeeding winter he will be perfectly ready for the town or country market.

SILK.

The Canadian Courant is endeavouring to stir up the people of that province to the raising of silk. The editor has no doubt that the climate is "well calculated" for that purpose.

MISCELLANEOUS.

(From the Columbian Gazette.)

Mr. Homans,—I have observed by the newspapers that several accidents have already happened to sundry persons by drinking cold water. I send you the enclosed *recipes*, which, if used with discretion will, I am confident, prevent future accidents of this kind. I would advise all laborers, and those who are much exposed to the heat of the sun, to carry with them a small pouch that will hold about four ounces, and a common iron spoon tinned, to measure the mixture, and every time they drink to use a little of it, but be careful never to drink more than half a pint at once. If they persevere a few days, it will become a habit; and it will be found that much less water than what is usually drank will be more refreshing and salubrious than larger quantities. J. A.

REMEDY FOR BAD WATER.

The following remedy was given by *Doctor Osborn*, of Middletown, *Connecticut*, to a highly respectable gentleman of the same state, who had been a water drinker from early life, and who some years since went to Ohio. "The Doctor told him to furnish himself with a mixture of equal proportions of pulverised *sugar* and *ginger*, and whenever he drank the bad water of the west, to put in as much of the composition as suited his taste, and he need never apprehend bad effects from a free use of the water.

"He tried it a number of years, and always found it an effectual preventive."—*New England Farmer*, vol. 7, c. 403.

An Indian woman once made me a present of about two gallons of Indian corn, parched until it was the color of our common toast—it was then pounded in a hominy block and sifted, and maple sugar added to it to suit the taste. I used it in the following manner:—When I was thirsty, I took a common sized table spoon even full (not heaped) for each person, and put it into about half a pint of water for each, which myself and hands drank. I found it excellent to quench thirst, and at the same time very nourishing—*so much so*, that when out surveying in the woods, we never stopped to eat in the middle of the day. We generally breakfasted about sunrise, and supped about sunset, and never suffered by hunger; and those that used it in the woods *never, that I recollect of*, had chills, fevers, or bilious complaints.

I would recommend it to all persons in the vicinity of marshes and other unhealthy situations; and especially to those who work on the canals in hot weather. And if they will use it systematically, *and not drink spirits of any kind*, nor overload their stomachs with water, *whether good or bad*, they may (I believe) labor in any situation whatever with impunity.

I make it as follows:—1 lb. of corn parched until it is brown, but not burnt black—then 4 ounces of clean moist brown sugar mixed with it; and for those who like it, they may add one ounce of ground ginger. And I used it as follows: Take a table spoon even full or very little more of the mixture, and put it in about a half pint or less of water, stir it and drink it; though I have generally drank it without the ginger.

A table spoon a little more than even full holds from 150 to 160 grains of the mixture, and will serve for about fifty draughts of a half pint each.

It is a very mistaken notion to swallow great draughts of water when thirsty—it fills a person so that he is less active, and becomes thirsty sooner than if he had drank a less quantity. The way to quench thirst in hot weather is, after having washed the mouth, to make about five or six swallows to a half pint of liquid, that is, less than a half of a gill to each draught; and let it run down the gullet as slowly as possible; and one fourth part or less of the liquid usually drank will answer all the purpose of quenching thirst. It will require some days perseverance and practice for persons to accommodate themselves to this mode of drinking; but those who have resolution to persevere, will soon find themselves more alert and in better spirits than by drinking spirits of any kind with their water or even molasses, and will be able to go through more labor and less fatigue than with any other beverage whatever. And if gentlemen, who hire a number of laborers, by getting them to use this mixture in their drink, will find their account in it, as each hand will go through his work with more animal spirits and cheerfulness; and also do a fourth, if not a third, more work daily.

I know this by my own experience, and by my observations of the people I have had in my employment.

Note. The above mentioned quantity will answer for an out door laborer for three days, and for a mechanic in-doors for a longer time, and will not cost two cents per day.

I have frequently travelled with Indians considerable distances and for days, and I do not recollect ever seeing one of them drink water immediately from the spring, but from small streams, and out of their hands, and never took more than four palms full, more generally but three; and sometimes they put a small quantity of the *suhau tusch*,* which they call the mixture. They never had ginger in it—that is an addition of my own; but I am not altogether satisfied that it is an improvement, except as to taste. The palm of the hand of a middle sized man will hold about an ounce by measure. J. A.

(From the Liverpool Mercury.)

CURE FOR HYDROPHOBIA.

As the Hydrophobia season has set in, we comply with the request of a correspondent by giving insertion to the following:—What we happen to know of the extraordinary property of the chloride of lime induces us to put great faith in its properties in the cure of the wound inflicted by dogs, or of any other means. [*Ed. Mer.*

We are indebted to M. Coster, a French physician, for the following valuable discovery, as a preventative to hydrophobia. Take two table spoonfulls of fresh chloride of lime in powder, mix it with half a pint of water, and with this wash keep the wound constantly bathed and frequently renewed. The chloride gas possesses the power of decomposing this tremendous poison, and renders mild and harmless that venom against whose resistless attack the artillery of medical science had been so long directed in vain. It is necessary to add that this wash should be applied as soon as possible after the infliction of the bite.

CURE FOR THE MILK SICKNESS.

We have been lately informed by a gentleman residing in a neighborhood where this disease prevails, that a few days since, he had a calf so affected with the *milk sickness*, that it could not stand alone long enough to suck, without assistance. He heard from some person that the complaint might be cured by drenching with *honey* or *molasses*, in the proportion of a quart to a full grown bullock, and in like proportion for younger cattle. Our informant used, a *pint of honey*, and in less than two days it was perfectly well. A neighbour of our informant, hearing of this *cure*, drenched a *milk sick* calf of his, with a pint of *molasses*, with the same good effect. These remedies have been tried within the last few days.

[*Western Ploughboy.*

Wheat, which 12 years since was worth but 31 cents per bushel on Lake Erie, now brings 75 cents, owing to the Erie and Welland Canals.

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* Bishop Hall, who wrote in the time of Elizabeth, intimates that such was the opinion of horsemen at that period. He asks, in one of his satires: (Lib. iv.)

"——— dost thou prize
Thy brute beasts' worth by their dams' qualities?
Say'st thou this colt shall prove a swift-pac'd steed
Only because a Jennet did him breed?
Or say'st thou this same horse shall win the prize,
Because his dam was swiftest Tranchefice?"

* Suk-a-tusch. The letters must be pronounced as the Germans do; to give the true Indian pronunciation the a is pronounced all or aw.

(From the New York Farmer.)

FLIES.—By S. F.

One of the blessings of the shorter summers of the temperate and higher latitudes is, that *activity* and *industry*—very important auxiliaries to our happiness,—are necessary to insure crops. Insects, too, notwithstanding, all the inconvenience they occasion, may be regarded as a blessing in disguise—one of the means designed by providence to make us active. In southern latitudes, where the productions of the earth can be obtained with comparatively a very little exertion, it is easy to perceive that without the labour necessary to guard against insects, inactivity and sluggishness would settle down like an incubus upon man. The injury which insects cause to our crops and furniture, and inconvenience to our persons should be considered as a part of that *judicious tarif* imposed by providence to encourage ingenuity and domestic economy. Instead then, of murmuring at the *duties* imposed, every exertion should be made at contrivance and invention to guard against their effects, and to promote our comfort. It augurs very unfavorably for the skill of our countrywomen that no progress has been made in the means of destroying house flies, fleas, and bed bugs. Go where you will, to city or country, you are liable to have your patience exhausted and your blood profusely shed, to support a system of domestic regulations that were designed to favor the ingenuity and elicit the inventive powers of the ladies. In every age *man* is making some discovery that very materially ameliorates the condition of the human race. But alas! what has *woman* done? Egyptian plagues inflicted for ages have not yet aroused her inventive faculties! In order to give the ladies an idea of the probable increase of bed chamber insects, and to show the importance of exertions and inventions to extirpate them, the writer would direct their attention to the *fecundity of flies*.—M. Von Cleichen, a German naturalist, has made the following calculation.

A fly lays four times during summer, each time 80 eggs, which makes . . .	320
Half of these are supposed to be females, so that each of the four broods produces 40.	
1. First eighth, or the 40 females of the first brood also lay four times in the course of the summer, which makes . . .	12,800
The first eighth of these, or 1,600 females, three times	384,000
The second eighth, twice	256,000
The third and fourth eighth, at least once each	256,000
2. The second eighth, or the 40 females of the second brood, lay three times, the produce of which is	9,600
One-sixth of these, or 1,600 females, three times	384,000
The second sixth, twice	256,000
The third sixth, once	128,000
3. The third eighth, or the 40 females, of the third brood, lay twice and produce ..	6,400
One fourth of these, or 1,600 females, lay twice more	256,000
4. The fourth eighth, or 40 females of the fourth brood, once	3,200
Half of these, or 1,600 females, at least once	128,000
Total produce of a single fly in one summer	2,208,420

To destroy flies.—The writer has seen the following plan adopted.—Put sugar, honey, or molasses in a plate of water, and into this put arsenic (rats bane,) set the plate in the part of the room most frequented by the flies. A few sips will kill them. If the room is darkened, leaving a small opening for the light, near which place the plate, they will be more effectually destroyed. The objection to this method of killing them is, that they die in all parts of the room.—If the ladies however, can take a hint from this to free our domicils from the disturbers of nightly repose, the object of the writer will be obtained.

(From the Monthly Journal of Geology.)

Experiment on the Colour of Flowers.

If the lobelia fulgens, which is of pure blood-red, is viewed by the light of an alcohol lamp, with a little salt added to the wick,—it becomes absolute black, which is not the case when observed by solar or chemical light. The scarlet geranium too, naturally reflects a compound of red and yellow, but when seen by the spirit lamp, with salt, appears yellow. Purple colors under like circumstances appear blue. If a candle is put on one side of the lobelia, and a spirit lamp on the other, one half appears black, and the other, red. The explanation of this beautiful experiment is suggested by the study of the nature of reflecting bodies, and of light. Coloured bodies are so formed, as to reflect rays and combinations of rays, peculiar to them in their natural state. Hence, red flowers reflect the red ray which they obtain from light. But the light of a spirit lamp gives out —as may be proved by a prism—no red ray, and hence the lobelia, when observed by this light, has no red ray to reflect, and appears black. The geranium receives no red ray, and appears yellow. The purple receives no red ray, appears blue. Those unacquainted with the properties of bodies and of light, are generally contented to believe that the natural colour of an object belongs to it inherently, as much as its form does. But this is not so. Whatever the reflecting structure of bodies may ultimately depend upon, they must be in connection with light before they can reflect; and as it is remarked, in a work that will perhaps bear reading oftner than any other that modern times have produced, "preliminary discourse on the study of natural philosophy, by John Frederick William Herschell," &c. &c. when the differently coloured prismatic rays are thrown, in a dark room, in succession, upon any object, whatever be the colour, we are in the habit of calling its own, it will appear of the particular hue of the light which falls upon it. A yellow paper, for instance, will appear scarlet when illuminated by red rays, yellow when by yellow, green by green, and blue by blue rays; its own (so called) proper colour *not in the least degree mixing with that it so exhibits.*"

Perhaps at some future day, light may be so managed, as to admit of bodies reflecting particular colours, without adding the expense of dying or painting them. Editor.

COFFEE.

The general effect of coffee upon the nervous coat of the stomach is, unquestionably a gentle stimulant; and as most substances of that class have to a certain extent, a tonic power, it may be safely recommended to individuals whose powers of digestion have been debilitated by stimulants of a more powerful character, such as fermented liquors, wine, spirit, &c. The custom of taking coffee after dinner, and just before retirement to rest, is bad; because its stimulant property on the nerves of the stomach exerts a power destructive to sleep; it promotes an activity of the mind, and gives a range to the imagination, which prevents self-forgetfulness, that sure harbinger to repose.—*Manual of Invalids.*

ADVICE TO COTTON PLANTERS.

We are requested by merchants, and others interested in the purchase and sale of cotton in this place, to state, that a great portion of the *bagging* in which cotton is packed, is so thin and flimsy, that many of the bales come to market in very bad condition, so much so that the seller finds difficulty in disposing of it at a fair price, purchasers alleging as a reason, "the heavy expense to which it is subjected for repairing, on its arrival in Europe," it is therefore respectfully recommended, that in future, the merchants and planters in the country, purchase good *Kentucky*, or strong Scotch *hempen* bagging, which will be calculated to stand the pressure of the screw, in loading a ship.—*Norfolk Beacon.*

AGRICULTURAL.

We some time since copied into the Gazette, an article recommending the soaking of corn in copperas water, in order to prevent its destruction by birds &c. We were informed by one of our patrons a few days since that he was induced to try the experiment, but without the slightest beneficial result. His domestic fowls ate the corn freely, after it had been soaked, and the birds pulled it up after it had been planted.

[*Zanesville, Ohio, Gazette.*

THE FARMER.

Baltimore, Friday, August 26, 1831.

New Chinese Mulberry. (*Morus Multicaulis.*) This newly introduced variety of mulberry for feeding silkworms is undoubtedly an important acquisition, and more particularly so to this country where silk is on the eve of becoming a staple article of production. The Editor of the American Farmer has had this variety under cultivation for two years, and has made himself acquainted with its peculiarities both as to quality and the manner of cultivating it. Not having a sufficient quantity for a full trial of feeding silkworms with it, he has been obliged to confine his experiments to occasional feedings, at which times the worms promptly left the Italian white mulberry leaf and devoured the new Chinese with avidity. The leaves of the new mulberry frequently measure a foot in length and ten inches in width. Indeed Mrs. Parmentier, the lady of the late Andrew Parmentier of the Brooklyn nursery and garden, who has 1600 of the trees for sale, in a letter to the Editor says, that some of the leaves on the trees in that establishment measure 13 inches in length, and that the worms left six different kinds of mulberry to feed on them. Although the number of leaves on the tree is not so great as that of those on the white, we should judge that the weight of the leaf was much greater—it is so great in fact that during a rain or after a heavy dew, the young trees are bent almost to the ground by the weight of their foliage. This mulberry bears no fruit, or rather it is so minute and so small in quantity that the propagation of it from seed is never practised. But like all other vegetables of difficult propagation by seed, it is remarkably easy of reproduction by other means. By laying down the young trees, covering them with earth, and leaving the ends of the branches out, every branch will take root and become a young tree in two or three weeks—so that every tree one year old will by proper management produce from ten to twenty in one summer. We laid down a tree on Friday 29th July, and a part of the stock near the root containing no branches, was left out of ground. On the Friday following two buds were seen shooting from the naked stock, and earth was then covered over the stock and around the buds. The young trees from these buds now measure 2 feet 6 inches high. This fact will serve to illustrate the great facility of propagating the morus multicaulis by layers. As this mulberry does not grow high, the leaves can always be gathered by hand from the ground without the aid of ladders or the danger attending the climbing of large trees. They can be planted pretty close together, and we should judge that an acre of ground would produce more foliage with this than with the white mulberry. The morus multicaulis being as yet quite scarce in this country, they sell high; but every one who contemplates cultivating silk should obtain a few, and by laying them down in July, multiply them. By this means ten trees obtained this fall, would, in five years, produce one million of trees, allowing each one to produce ten every year, which we are convinced they will certainly do; that is, in the fall of 1832 there would be 100; in 1833, 1000, in 1834, 10,000; in 1835, 100,000; in 1836, 1,000,000—and these we have no hesitation in saying would produce ten times as much foliage as could be produced with the same expense and labour in the same time, of the white mulberry or any other kind. We hope editors in the country will give free circulation to these facts, that the cultivators of silk, and those who contemplate entering upon that business, may avail of the advantages of this mulberry in commencing their orchards. The morus multicaulis can be obtained of Wm. Prince & Sons, at the Linnæan Botanic garden at Flushing, New York, of Mrs. Parmentier, at the Horticultural Botanic Garden at Brooklyn, N. Y. and of the Editor of the American Farmer. They are generally sold at one dollar each.

AMERICAN SILK.

We had the pleasure a few days since of examining a fine specimen of American sewing silk from Mansfield, Con. The gentleman who exhibited it has upwards of 10,000 skeins, for which he finds a ready sale at about $8.50 per lb. He informs us that about *five tons* have been raised in Mansfield alone this season, and the culture is rapidly extending in Coventry and other neighboring towns. One gentleman in Connecticut last year paid $1500 for white mulberry trees, with which he has set out an orchard of one hundred acres. About 1000 bushels of cocoons were sent to Philadelphia last season, and were sold for $3 per bushel. Competent foreigners are now setting up machinery in Mansfield for spinning and weaving the raw article, which has made a great demand for cocoons, and given a spur to the business. By means of machinery introduced a year or two since, the value of the raw silk has been enhanced $1 per lb. The business is managed almost exclusively by females, requiring *very particular* attention for only about two weeks each year. The sales of sewing silk in Mansfield alone this year are estimated at upwards of $85,000.—*N. E. Farmer.*

LIVERPOOL COTTON MARKET.—*July* 8.

There has been a good demand for cotton during the week, particularly in the early part of it, when it was supposed that the projected increased duty would be immediately changed. The trifling advance which this circumstance enabled the sellers to obtain, has, however, gradually disappeared in the course of the week, and the market closes to-day with steadiness, but without any change from the prices of our last. The sales of the week amount to 18,890 bags, viz:—Sea Island, 10¾ a 15d; 30 Stained do. 5¼d a 8¾; 6250 Upland, do. 5d a 6¼; 5610 Mobile and Alabama, 5d a 6; 3320 Orleans, 5¼ a 8d; 140 Pernambuco, 6 7-8 a 7¼d; 630 Bahia and Maracaibo, 6 a 7d; 799 Maranham, 6½ a 7¾d; 30 Demerara, &c. 6¾ a 7¼d; 50 West India 6¼; 20 Carthagena 5d; 200 Egyptian 8d a 9d; and 50 Surat 4 a 4 5-8d.

Prices Current in New York, August 20.

Beeswax, yellow 19 a 20. *Cotton*, New Orleans .10 a .12½; Upland, .7½ a .10; Alabama, .8 a 12. *Cotton Bagging*, Hemp, yd. 14½ a 17; Flax 13 a 14½; *Flax*, American, 7 a 8.——*Flaxseed*, 7 bush. clean .—— a .—— *Flour*, N. York, bbl. 5.00 a 5.18; Canal, 5.31 a 5.62; Balt. Hwd. st. —— a 5.37; Rh'd. city mills —— a —— country, —.— a 5.00; Alexand'a, 5.00 a 5.25; Fredericksburg —— a 4.87; Petersg. —— a 5.00; Rye Flour, —— a 3.62; Indian Meal, per bbl. 3.62 a 3.75; per hhd. 17.00 a 17.25; *Grain*, Wheat, North, 1.12 a 1.13; Vir. —— a ——; Rye, North, — a 78; Corn, Yel. Nor. 74 a 75; Barley, — a —; Oats, South and North, .36 a .42; Peas, white, dry, 7 bu. 5. Beans, 7 bu. 7.00 a 8.00. *Provisions*, Beef, mess 8.50 a 9.00; prime 5.50 a 5.75; cargo 4.62½ a 5.00; Lard, 8½ a .11; Pork, mess, bbl. 14.00 a 14.75; prime 10.00 a 11.25.

ELKWOOD ESTATE.

To be sold, that well known, and highly valuable estate in the county of Culpeper, Virginia, about 30 miles from Fredericksburg, late the property of Mr. Carter Beverly, and afterwards of Mr. John S. Thornton, but now in the occupancy of Mr. John Browning, who is going to England. The estate is so well known for the fertility of its soil, and the beauty of its situation, that a particular description is unnecessary. The mansion house is in excellent repair, and is happily placed on a gentle eminence in the centre of the property. It is bounded on the east, northeast, north, and northwest, by the river Rappahanock, on the banks of which lie near 700 acres of fertile land, the most part river bottom, at present in the highest state of cultivation, and covered with luxuriant crops of clover. The surrounding uplands produce excellent wheat, rye, and oats, and there is a sufficient body of wood to maintain the fences. It has likewise the singular advantage of a small stream passing through it, which never fails; so that all the fields are well watered, and there is a capital mill site on which formerly stood a merchant mill, and saw mill. The farm building, barn, cornhouse, overseer's house, negro quarters, &c. are at a convenient distance from the mansion house, and afford the most ample accommodation

The property will be sold by public auction in June next, 1832, altogether or in lots, as may suit the purchasers, should it not be disposed of in the mean time by private contract, and ample time will be allowed for the payment of the purchase money. It is presumed an estate so well calculated for the residence of a gentleman, on account of the beauty of its situation, and substantial improvements, cannot be found in Virginia. It is estimated to contain about 1331 acres, and is remarkable for the salubrity of its air, and the absence of marsh and stagnant waters. Letters, post paid, may be addressed to the proprietor, at the post office, Stevensburg, Culpeper county, Virginia, and the premises may be viewed at any time.

August 19.

ORCHARD GRASS SEED WANTED.

WANTED IMMEDIATELY by the subscriber, a few hundred bushels of Orchard Grass SEED of this year's growth, and free from noxious seeds, for which cash will be paid on delivery. Who has on hand his usual supply of Agricultural Implements, such as superior Ploughs, Wheat Fans, Cultivators, Harrows, his patent cylindrical Straw Cutter, superior Rag Cutters for paper making, Dutch Cutting Boxes, Scythes, Hay and Manure Forks, Hoes, Brown's vertical Wool Spinners, Wire Safes, and Wove Wire, &c. &c.

Also a general assortment of the Messrs. Landreth's Garden Seeds, for sale, and will furnish fruit and ornamental TREES from their nursery to order.

And likewise keeps a general assortment of Grass Seeds for sale, of such as can be depended on.

J. S. EASTMAN,
August 5. No. 36, West Pratt street.

WOOL WAREHOUSE.

LYMAN REED,
Commission Merchant, No. 195 *Baltimore street,*

Devotes particular attention to the sale of WOOL. Any consignments of the article forwarded to him for sale, can be disposed of immediately for CASH, at the highest market price.

CASH, and a fair price, will be paid for a few thousand pounds of *good wool*, (if offered immediately,) to supply orders now on hand.

Refer to Messrs. Cobb, Wyman & Co. Baltimore.

J. S. EASTMAN,

No. 36, *West Pratt Street,*

OFFERS, at *Wholesale and Retail*, Hay and Manure FORKS, and Scythe SNEADS.—Also for sale, Grain CRADLES, and Cradle SCYTHES, Grass SCYTHE, English and American, with and without Sneads, Wheat FANS. Scythe STONES, &c. &c. Together with his usual assortment of PLOUGHS, and other AGRICULTURAL IMPLEMENTS, Garden Seeds, &c.

A fresh supply of FLOWER SEEDS, just received from the Messrs. Landreth's.

BALTIMORE PRICES CURRENT.

BALTIMORE MARKET.—There is no change in the price of flour. The wagon price of Howard street remains at $5.50, and sales are made from stores at $5.62½. We have heard of no sales of red wheat at a higher rate than $1.12, and none but very choice parcels have brought that. Our quotations embrace the extreme rates. There is a further depression in wool, and our quotations are from actual sales. Beef remains steady at our former rates.

TOBACCO.—Seconds, as in quality, 3.00 a 5.00; do ground leaf, 5.00 a 9.00.—Crop, common, 3 50 a 4.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 10.00; yellow and red, 8.00 a 14.00; yellow, 14 00 a 16.00.—Fine yellow, 16.00 a 20.00.—Virginia, 4.00 a 5.00.—Rappahannock, 3.00 a 4.00——Kentucky, 3.50 a 8.00. The inspections of the week comprise 690 hhds. Md.; 76 hhds. Obio; and 16 hhds. Kentucky;—total 782 hhds.

FLOUR—best white wheat family, $6 00 *a* 6.50—super. Howard-st. fresh $5.62½; city mills, fresh 5 25 5.50; Susq.— *a* —; CORN MEAL, bbl. 3 50; GRAIN, Md. red wheat, 90 *a* 1.12½; white do. 1.10 *a* 1.22, Susq. — *a* ——CORN, white, 64 *a* 65—yellow 65 *a* 67 RYE, — *a* 65. OATS, .30 *a* 33. BEANS, 75 *a* 80—PEAS, 65 *a* 70—CLOVER-SEED 5.00 *a* 5.50-TIMOTHY, 2.00 *a* 2.50—ORCHARD GRASS 1.25 *a* 1.75—Tall Meadow Oat Grass 2.75—Herd's. 50 *a* 75—Lucerne 30 *a* 37½ lb.——BARLEY, ——FLAXSEED —— *a* ——COTTON, Va. 9 *a* 9½——Louisiana 11 *a* 13—Alab. 9½ *a*. 11—Tenn.. 9 *a*. 10——N. Car.. 9 *a*. 9½——Upland 8 *a* 9½—WHISKEY, hhds. 1st p. 32½ *a* 33—; in bbls 34 *a* 35——WOOL, *Washed*, Prime or Saxony Fleece 58 *a* 67; American Full Blood, 50 *a* 58; three quarters do. 44 *a* 50; half do. 38 *a* 44; quarter and common do. 35 *a* 38. *Unwashed*, Prime or Saxony Fleece, 36 *a* 40; American Full Blood, 33 *a* 35; three quarters do. 30 *a* 33; half do. 28 *a* 30; quarter and common, 25 *a* 28——HEMP Russia ton, $255 *a* —; Country, dew-rotted. 5½ *a* 7c. lb. water-rotted, 7 *a* 9c.—Feathers, 35 *a* 36; Plaster Paris, per ton, 4.18¾ *a* —, ground, 1.37½ *a* — bbl. Iron, gray pig for foundries per ton 33.00 *a* ——; high pig for forges, per ton, 28.00 *a* 30.00; bar Sus. per ton, 72.50 a 80.00 —Prime Beef on the hoof, 4 75 *a* 5.25—Oak wood, 3.00 *a* 3.25—Hickory, 4.25 *a* 4.50—Pine 2.00 *a* 2.25.

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AGRICULTURE.

(From the Library of Useful Knowledge.)

REPORTS OF SELECT FARMS, No. 1.

By Henry Gawler, Esq. of North-Hampshire.

(Concluded from page 188.)

PLANTING.

The planting of trees is not necessarily connected with farming; but it forms a part of agricultural pursuits.

In the soils, the nature of which has been described, no trees of any description grow with luxuriance, without the assistance of trenching the grounds; but when this practice is adopted, they grow with vigour and beauty, and attain considerable size. The depth of trenching depends on the quantity of the soil; in the gravelly clays and gravels, frequently it may be dug two feet and a half deep; on the light soils the chalk rubble begins to appear at five and six inches; in the latter soils it is not advisable to trench below the depth of a foot.

Neither the larch nor fir is suited to chalk soils of little depth. Whenever they attain a size which compels the root to come in contact with the chalk, they turn yellow and perish soon. But many useful trees flourish in this soil: the beech, birch, sycamore, plane, poplars, and yew, are well suited to such ground.

CAPITAL AND ACCOUNTS.

There are two subjects connected with agriculture which cannot be too strongly recommended to the attention of farmers, but which they generally neglect in a manner very prejudicial to their affairs.

Necessity of Capital.—Farmers in general do not take the precaution of being prepared with funds of ready money, and they are consequently driven to sell their produce from contingencies they do not always anticipate, at times when their commodities must be disposed of to a disadvantage. Franklin has observed, that there is a difference of ten per cent. between *will you sell?* and *will you buy?*—and it is want of attention to this well-founded axiom, that prevents the farmer from being empowered to wait for the question *will you sell?* The farmer is a sturdy bargainer, and will drag out a contention about price to a tedious length, but if his customer be aware that a sale is indispensably necessary to the affairs of his competitor, the buyer is sure to carry his point. The credit, the show, of a little capital, confers an advantage on the farmer in these contests, and can alone put him upon a level with his antagonist.

Accounts.—Few farmers keep any accounts: at the end of the year they make a rough calculation of the value of the capital and stock that remains, and from such computation they collect the amount of their profits or loss. But if agriculture and farming be really a science, and is to be conducted on the most advantageous system, a distinct account of the several heads of expenditure, and the amount of the several distinct articles produced in quantity and value, is indispensably necessary. Without some account of this nature, no reference can be made to ascertain the average amount of the crops, and there can be no means of determining which are raised at the least expense, and which are the most profitable; nor in what parts of the expenditure a retrenchment can be best made.

Many modes of keeping accounts have been recommended, but the objection to them in general is, that the divisions are too refined, and are too complicated for farmers of common acquirements. They have not time to attend to a minute detail, nor instruction sufficient to render it easy in practice. Some few heads are suggested at the end of this paper, under which they might arrange their expenditure and receipts; and as they become familiar with the method, they can afterwards be carried into more minute details.

General Observations and Maxims for the Management of a Farm.

Arranged under the title of the Month to which they are applicable.

JANUARY.

During the frosts of this month carry out faggots, poles, and timber; draw out manure, chalk and marl land. This employs the teams which cannot be used for other purposes. In wet weather, storms, and deep snows, sheep should have some hay daily with turnips; turnips alone are not sufficient, hay is now well bestowed upon them; it keeps up their strength and enables them to go through their lambing. Ewes and lambs are often lost by a wrong-calculated frugality in this respect. If you fold sheep, choose the most sheltered spots, consistently with the plan of the future crops; ewes and lambs are much injured by too long exposure to severe weather. It is a good plan in bad weather to bring the sheep into yards, and it is best to separate the strong from the weak; the former drive the latter from their food.

If cows calve this month, contrive to have some cabbages, turnips, swedes, carrots, or other green food besides hay. Hay is the most expensive food in all places, and when given alone is not so productive of milk.

FEBRUARY.

As very cold weather generally prevails this month, the rules respecting stock still remain applicable as in January.

Plant beans early this month. If possible, finish the planting before the end; late crops do not succeed well. They should be dibbled about three inches apart, and carefully covered with mould pressed moderately on them. The common little horse-bean is the best, and more marketable. Growing higher than other sorts, it yields a greater quantity of straw. It grows best on rich dry sound loam.

This is the proper season for sowing black oats and hardy peas. The white pea is more tender than the grey.

Manure grass lands with soot, coal, wood ashes, lime, &c.

Marling may go on profitably.

MARCH.

This month sow barley. If all other circumstances are equal, the March will be superior to the later sown.

Increase the quantity of seed as the season advances. If four bushels are sown in February, five should be sown the end of March.

Sow white oats; the land should receive the same preparation as for barley.

Clover. There are several methods of sowing this; but the surest is to broad cast and harrow it in at the time barley is sown. Ten or twelve pounds is the usual quantity of seed, but fifteen are better.

Sow upon light sandy soils trefoil, with a portion of white clover and rye-grass. Six pounds trefoil, four white clover, half a bushel of rye are the common quantities.

Sow sainfoin. Sands upon chalk are its favourite soil; also loams and clays in a shallow stratum on limestone. No crop is so profitable. Six bushels an acre broad cast.

Sow now all sorts of peas not sown before. All stock ewes, wethers or lambs, should now be well kept. If pinched now, all money before expended is thrown away.

APRIL.

Barley crops not sown in March should be in the ground by the middle of this month.

There should be two sowings of spring tares this month—one at the beginning, the other at the end. Three bushels per acre.

Sainfoin may be safely sown.

This month tries the farmer more than any in the year. Pieces of clover and rye-grass grown on land in pretty good heart, should succeed as feed for sheep after the turnips; swedes are very useful this month; they should be pulled up to prevent their running up to flower, and becoming fibrous and hard. If pulled up they get mellow and last on the ground good until the end of May. No turnip should be in the ground after March.

Markets for beef and mutton are usually high towards the end of this month. Beasts really fat are sure to sell well at Smithfield.

Do not be anxious to get your cows out of the farmyard. Swedish turnips and chaff are good food for them. Turning cattle out before there is a good bite is unprofitable.

The end of this month is the best season for planting potatoes.

This month must conclude the business of fences; it is bad husbandry to cut hedges after April.

MAY.

About the 12th the farmer may calculate he will have a sufficient bite to leave off foddering. Buckwheat may be sown towards the end. It is a profitable crop on all land that requires late sowing.

Lucerne may be sown: being a perennial, when well cultivated it gives an immense profit—the land should be rich, and fine, and free from weeds. Potatoes may be planted through this month.

Swedish turnip. The best culture is to sow where it is to remain; not transplant them.

Hoe beans and pea crops if drilled. The drilling of peas on good loams or sands is an excellent practice.

Sheep should close-feed the grass. There should be no bent suffered to rise. Experience has taught the fact, that the way to have abundance of leaf, is to prevent the stems rising at all.

This month begins folding in all England. Many farmers give too slight dressings. The land should be black with manure if arable, with a good covering of grass.

Mind the dairy diligently this month. It is the most difficult part of farming at this period.

JUNE.

Turnips are the soul of the best husbandry. A succession of tares and turnips in the same year may be raised and consumed on dry land until it be made of any desired degree of richness. Turnips may be sown during the whole of this month.

A second or even a third sowing of swedes should be made and hoed as soon as they are in rough leaf, if the weather be not too dry. The cultivation in rows is excellent where the soil permits.

This month sainfoin clover and meadows are cut for hay. In mowing, make the labourers cut as close as possible; grass never thrives well that is not cut close, and one inch at the bottom weighs more than several at the top.

Sheep that are kept in inclosures, and especially in a woodland country, should be examined every day lest they be fly-struck. In twenty-four hours it may be almost past cure. Melt some butter, and stir in a sufficient quantity of flour of brimstone until it is of good consistency; a piece of the size of a small walnut is to be rubbed between the hands and drawn along the back of the sheep. Maggots should be dislodged with a knife, and a small quantity of white lead scraped from a lump put amongst the wool, which being shaken the powder is carried down to the wound.

JULY.

This is the time for hand-hoeing turnips. Turnips sooted about twenty-four hours after they are up, appear to be protected against the fly.

Crops of potatoes planted in rows should have a third horse-hoeing this month, or the ground well pulverized by a scarifier, fixed in a heavy iron beam, working under the ridge; afterwards throw up the mould by a double-mould board-plough. There is great use in this operation.

All meadows not cut in June should now be mowed. Hay-making in many seasons is ticklish. It is a material point to have plenty of hands. If good use be not made of favourable days, the work will be unprofitable.

Have an eye to your fallows this month. Do not suffer them to be overrun with weeds. You farm unprofitably, if you do not keep men and horses for all work.

Before this month goes out, lambs should be weaned.

Do not let the marl, chalk, or clay carts stop; it is a proper season for the work.

Be very attentive to the wheat crops; they are very liable to the mildew, which admits but of one cure, reaping it as soon as it is struck.

AUGUST.

Now the farmer ought to give his first attention to his wheat crops. Bad weather generally injures his profits. He must have many hands at work to make the best use of fine seasons.

Take care the men do not cut in improper weather, and that they make the sheaves in proportion to the quantity of weeds and ripeness of the corn.

Wheat stacks should be placed near the end of a barn, and a door or window made to throw it in. This saves much labour, and danger from being caught in bad weather.

Of all grain, oats take the least damage in bad weather. A shower or two is rather beneficial to them.

The barley crops should generally have good field room, lying five or six days after mowing: a heavy shower will not diminish the farmer's profit; it makes the grain swell and measure more per acre.

The custom of gleaning is universal, but the poor have no right to glean without the permission of the farmer. He should permit under such rules as prevent abuse; but let him not suffer his pigs or cattle to interfere with the gleaner; such little profit should be allowed the poor.

The second hand-hoeing of broad turnip crops must be now given, and should not be omitted on account of other harvest work. Sell lambs this month; it is advantageous.

SEPTEMBER.

The cultivation of tares is extending every year. They make, with turnip crops, the arable farms support as much stock as the grazing. During the time they occupy the ground, they produce as much green food as grazing land.

Immediately after the corn is carried, or even partly carried, plough the field and sow tares, and where no manure is used, in some soils the seed may be harrowed in without ploughing.

Mowing the tares, and feeding the sheep in cribs with them on the land, is a good method.

Upon all cold, wet, and backward soils, September is the best season for putting in wheat, provided the land be not too dry. Upon drier and warmer soils, it is better to postpone it to October.

The red straw Lammas wheat is reckoned by many farmers the best of all the sorts hitherto known, yielding the finest and whitest flour; but still the white sorts of wheat sell dearer.

Steeping the seed in a solution of arsenic is said to give clean crops from smutty seed.

You must be very attentive to your fatting beasts: a beast nearly fat must have plenty; he is nice, and, if at all curtailed in pasture, will fall off.

OCTOBER.

At this season farms are taken; do not be captivated by seeing large crops on the land; examine well, at the same time, by what expenses they are raised.

Soils formed by water are amongst the richest which are found.

Grass fields on gravelly soils, if the gravel be sharp, are apt to burn in dry summers; but they give great and sweet crops in wet ones.

Contiguity of fields is of great importance; many farmers overlook this circumstance. Straggling, disjointed fields are most perplexing, and a great drawback on profitable management.

This may be the last month of cattle remaining abroad; and if so, the farm-yard should be in order to receive them. In hiring a farm, a man should attend much to the goodness and convenience of the yards.

About the latter end of this month, horses must be put to dry meat, hay, oats, and chaff. The Flemish give no water to their horses without making it into a white soup, by the addition of meal of corn of low price. No horses in Europe are better managed.

In stocking a farm, it is often a question whether to employ horses or oxen. In counties which do not possess a breed of horned cattle, and have no land for fattening, it will not answer to employ oxen.

Dairy cows must be taken into the yard, and their food varied according to their state.

NOVEMBER.

This is the first month for hedging and ditching. October is too soon.

The stock of lean sheep may still be fed on the remains of the summer grass; but the fat stock must have turnips and hay. Remember that fat cattle should have as much feed as they like, but should be prevented making waste.

There is little doubt that salt may be used in such manner as to preserve the health of sound sheep, as well as to cure such as are rotten; it may be given in their hay, or you may drench them with brine of proper strength.

The black scour, or other diarrhœa, in sheep, it is said, may be cured by giving salt.

Drilled swedes should now be covered with mould. It may be done by a light double-mould board-plough.

DECEMBER.

Threshers must be kept constantly at work this month, that the cattle may be fed with straw-chaff. Use the worst straw first; every change of straw should be for the better. Wheat straw makes the worst fodder; oat comes next; barley the best. Do not be without a threshing-machine, if you can afford it.

Pigs should be littered; they make the best manure on the farm. In the management of store swine, oats are preferable to barley. Young pigs require warm meat to make them grow.

Keep the hedgers and ditchers close to their work this month, that they may be ready for other work in the spring.

Sheep that have been reared, and constantly fed on chalk hills, are free from the rot, as long as they continue in that situation. Sheep may be cured of the rot by management, or medicine. Winter them in strawyards where they have sheds to keep them dry. The disease of the rot is similar to dropsy.

ACCOUNTS.

It is recommended in the first place, that the farmer should make a general daily entry in a book, of his receipts on one side, and his payments on the other; together with such observations and occurrences that should be recollected, for the best management of his farm, and should afterwards, at his leisure, digest them under the following heads:—

Annual payments to farm servants. Weekly payments for labour, including work done by the piece or quantity, distinguishing the threshing of wheat, barley, &c.

A separate head for—reaping, mowing, and hoeing.

Ditto—fencing, making hedges, and ditches.

Ditto—tradesmen's bills, as blacksmiths, wheelwrights, &c.

Ditto—repairs of buildings of all descriptions belonging to the farm.

Ditto—taxes, assessment, poor, and other rates, tithes, rent.

Ditto—seed of all sorts bought for sowing.

Ditto—hay, corn, bought for consumption on the farm.

Ditto—dead stock bought.

Ditto—live stock bought.

Ditto—payments for manure; such as ashes, lime, &c.

Ditto extra expenses; such as allowances to carters for long carriage, turnpikes, beer, and a number of small out-goings which constantly occur.

Wheat crop.—Number of acres reaped; how much winnowed, sold, consumed in family, sown, and otherwise disposed of.

Barley, ditto.

Oats, ditto.

Ditto beans, peas, tares, and hay and other pulse.

Number of sheep on farm,—sheep, lambs, and wool sold, or otherwise disposed of.

Pigs, ditto.

Other cattle according to the nature of the farm.

Butter, cheese, milk, and calves.

Poultry, eggs.

Extra profits on small articles sold; for carriage when hired, &c.

Wood.

This method of keeping accounts is framed for the use of common corn farms. When the farmer has practised this plan for two or three years, he will easily make such further divisions as he may find desirable. But the mode first tried must be simple and very intelligible. He will find out, from thus dividing the heads of expenses, the departments where the weight of the out-goings mainly presses, and may curtail and economize in such as may admit of some saving.

MR. COKE OF NORFOLK—THE GREAT ENGLISH FARMER.

The New York Enquirer, after complaining that this distinguished member of the English commonalty should, as report says of him, accept a peerage, adds some memoranda of his enterprise and success as an agriculturist. The statements, we presume, are substantially, if not perfectly correct, as they correspond to what we have learned from other sources.—*Christian Register.*

A good deal has been said lately in our papers, about the cost of elections in England; perhaps the case of Mr. Coke may not be generally known: as we never see it mentioned, we suppose this to be the case. His last contest for Norfolk cost him £75,000 or about $350,000, and once it cost him £90,000, or about $375,000 including exchange.

But how can he endure such enormous expenditures—and what is the object really worth? As we are apt to measure worth in this country, the object is worth just nothing at all, being productive only of further and considerable expense, without emolument or profit. Wealthy men, however, in that country as in this, love power, and are willing to pay for it; love to lay out their money on something—no matter what—which other people cannot afford. Hence the geometrical ratio in which diamonds are estimated; hence the value of a white elephant in the east, even to a monarch; hence the extravagant price we pay for cashmere shawls, blond laces, &c. &c.—no one of which would be thought half as beautiful, if they cost but half as much. But how can Mr. Coke afford to throw away so much money? Simply because he is a great farmer, who has lived long enough to enjoy the results of experiments made in his youth,—to eat of the tree that his hands planted half a century ago.

When he came into possession of the estate he was poor, and the estate poorer. The whole was not worth £2,000 a year; what it is now, he himself has made it. There were 11,000 acres of land lying waste, which had been let for three shillings an acre. When the lease expired, the man who had it would not offer more than two shillings an acre for a renewal. "No," said Mr. C., "I will keep it to breed pheasants and game—it will be worth more than two shillings an acre to my friends, if not to me." The man would give no more, and Mr. Coke went forthwith to planting oak, larch, and sweet chestnut, as they call it there to distinguish it from the horse chestnut—over the whole of his magnificent reserve. He persisted, year after year, until he had covered the whole; and when he came to be married, it was valued by competent appraisers, with a view to the marriage settlement, at 222,000*l*. In the county of Norfolk, he owns over 60,000 acres of land, either under a high state of cultivation or well worked; 5000 acres of which he actually farms out on his own account,—it is eleven miles round his park. When he began to revolutionize Holkham, fifty years ago, it cost him ten thousand dollars a year for timber to keep his fences and buildings in repair, (apart from his own house, that being a palace, and fitted for the wear and tear of centuries;) but within the last eighteen years, he is not only able to supply himself with timber, but to sell about twenty thousand dollars worth of *poles* every year, from clearings which are continually made, where the smaller growths get crowded, or the larger trees interfere with one another. For the last twenty years, he has regularly planted one hundred acres, every year, with timber trees. He has five regular auctions a year, and puts up these *poles* in lots of 260. The timber is in high credit, and the sales average about $4000 each, or $20,000 a year. The monthly expense of his establishment at Holkham, is about $5000; he keeps 70 servants, 45 being men servants. In a word, he is the builder of his own private fortunes—a strongminded, straight forward, useful man, —a self made philosopher, and what is more, a practical farmer; living under that extraordinary system of poor laws, where men are bribed to pauperism and precipitate marriage, he has contrived to keep the whole country, far and wide, in a healthy state, by the mere influence of a quiet and sober example. *What had such a man to do with a peerage?*

Re Rustica, No. VI.

Extracts from the Works of Lucius Junius Moderatus Columella, a Roman writer of the age of Tiberias.—Book 6, chap. 1.

OF WORKING CATTLE.

The ox, the horse, the ass and the mule are the co-partners of our labours; but it is the ox that should be honoured and respected above all other animals, especially, because Italy is supposed to have derived its name from it, because the bounds of the first Greek city were marked out by oxen, because at Athens the ox is said to be the minister of Ceres, because it is worshipped in Egypt, because he has a place among the brightest stars of heaven, and because he is the most eminently laborious and useful animal in existence. It was once in Rome as great a crime to have killed an ox as a citizen.

The disposition, colour, shape and condition of oxen are as various as their countries. In *Campania* they are white and slender but well fitted for husbandry labours; in *Umbria* they are huge, of a red colour and valuable for their bodies; in the *Appenines* they are sturdy, capable of any hardship, but not comely. Mago, the Carthaginian, gives the following directions for the purchase of oxen.

They are to be square, with huge members, lofty horns, somewhat blackish and robust, broad curled forehead, rough hairy ears, black eyes and lips, wide nostrils, a camoy's nose, long brawny neck, large dewlaps, hanging almost to the knees, a great breast, vast shoulders, a capacious belly, broad loins, a strait and even, or somewhat subsiding back, round buttocks, straight legs, rather short than long, the hair short and thick, and of a red or dark colour, and exceeding soft to the touch, great hoofs and long bristly tails.

The ox is best in the country in which he is bred, but if we are forced to purchase from abroad, let it be from a country and climate like ours. A labouring ox should not be one that readily fattens, but his flesh should be robust.

Stubble should be cut up and leaves be gathered as food for oxen. In winter they should have bitter vetches, lupins or chichlings, if these are scarce chaff and grapes stones make very good food. Of leaves, the best are elm, the next poplar, and the evergreen oak. But fig leaves and almost any other will answer.

To break your oxen begin the morning of a day free from storms and religious ceremonies, put ropes on their horns and tie them to stakes, if fierce let them give vent to their fury a day and night; then you may lead them and let one follow with a willow cudgel and make them walk quickly a thousand paces. Put your hands all over them, particularly their legs and bellies. Let him who leads and handles only feed and fondle them. About the fourth day give them a pound of sops and a sextarius of wine and put the yoke upon them.

At first let them be led by the yoke at a good pace, then draw a bough of a tree, next a beam, then a cart, gradually adding loads.

A good method is to put the untaught ox between two veterans, all three in the same yoke, or one yoke of disciplined oxen before, and another behind a yoke of untutored oxen, with a load attached heavy enough to keep all steady.

Oxen should not while taming be approached behind or side ways but directly in their faces lest they acquire abiding habits of distrust and fear.—The ox is a sensible, generous animal, and those qualities should be appealed to in his management. He should be encouraged and threatened by words, and if need be urged by a whip, but never by a goad, as it provokes him and makes him ill natured and disobedient.

If an ox in breaking is sullen and lies down, overcome him by patient waiting and by hunger, but never inflict blows, which will be sure to prevent his showing the noble qualities which with judicious treatment you will find he possesses.

When the ox is much fatigued give him a sextarius of wine, and to prevent the hide bound of the neck and gallings, pull and rub the skin and bathe it with wine.

One ploughman is sufficient for two yoke of oxen which go out to pasture by turns.

That wise man, M. Cato, author of the book de re Rustica, being asked by a man what business of husbandry he should follow to be most certainly and quickly enriched, answered, as a diligent grazier: Being asked what was the next best, he answered, an indifferent grazier: and being asked what was the third most gainful, he answered, a negligent grazier—intending thereby to show his respect for the value of cattle and his opinion of the profits of grazing, even of a bad grazier, over culture. [Cicero and Pliny have both quoted and applauded the sentiment.]

On the subject of the present year's wheat crop, in the western sections of the state of New York, the Commercial Advertiser has the following paragraph:

It has been stated, and the fact substantially contradicted, that the western wheat crop will this year, fall far short of the ordinary yield. We have direct information upon the subject, which renders the intelligence but too true. An extensive agriculturist from Cayuga county, states to us this morning, that in a wide section of the country, embracing Cayuga and the adjoining counties, the crop will not equal one half of the ordinary product. The quality is generally good, in Cayuga, when well got in. But much was grown, in consequence of the wetness of the season.

HORTICULTURE.

(From the New England Farmer.)

FRUITS.

Mr. Fessenden,—As this is the season for the Green Gage to ripen, I take the liberty to call the attention of the cultivators of this delicious fruit, to a fact that is, I believe, not generally known, and which has occasioned much discussion among gentlemen who suppose themselves acquainted with this fine plum. Cultivators of fruits have for an hundred years past, and upwards, employed much of their time in discussing, and endeavouring to fix correct and true names to fruits which have fallen under their observation. The celebrated *Duhamel du Monceau* has perhaps done more to accomplish this object than any other individual whatever; and ever since the publication of his great work on Fruit Trees in 1768, he has been acknowledged throughout Europe as the *best*, (and of course a *standard*,) authority, so far as he had published his opinions on these points.

My object in making this communication is to correct a common error that prevails among horticultural gentlemen here, who frequently mistake the "Petite Reine Claude" for the Green Gage; and the most effectual means perhaps of correcting this error is to give Duhamel's description of the two fruits—the "*Grosse*" and the "*Petite Reine Claude.*"—Nothing can be more desirable among cultivators of fruit than a correct nomenclature, as it prevents the grafting of one fruit for another, and of course prevents, not only a great loss of time which necessarily elapses before the error is dicovered, but saves the cultivator much expense; and much vexation when he ascertains that his labor has been in vain. Indeed nothing is more important in this branch of horticulture, and he who contributes most effectually to this object may be said to have rendered the greatest service to the fruit garden, and the lovers of good fruit.

The case I have cited is one out of a hundred where mistakes have crept into publications and reports on the subject of the names of fruits—but by the attention and caution of some of the leading members of your society it is to be hoped that the evil of misnaming fruits will in a few years be corrected.

I have been informed with much pleasure that Gen. Dearborn means to make a communication relative to the new sorts of pears which have been given to the world by the persevering care and industry of the celebrated "Van Mons."—The pains which General Dearborn has taken to open and maintain a correspondence with some of the most distinguished horticulturists of Europe, does him great credit, and must be highly beneficial to the Massachusetts Horticultural Society, of which he is most deservedly the *head;* and if industry, intelligence, and urbanity (properties which eminently belong to this gentleman) have their usual success, he cannot fail to be, if he is not already, the *soul* also. I do not mean however to detract from the merits and usefulness of other officers of that respectable Society, many of whom I know possess information and diligence that are highly honorable to themselves and beneficial to the common cause in which they have engaged:—but I mean to say that I do not think they could have shown their wisdom and good sense in a stronger point of view than they have done in the choice of Gen. Dearborn as their President.

If I am rightly informed, this gentleman has received direct from Prof. Van Mons, a catalogue of all his best fruits, with sketches of some of the most distinguished sorts, accompanied with accurate descriptions of each from the pen of the cultivator himself. Here then there can be no mistake as to names, and when, as I understand we have a right to expect, this distinguished horticulturist shall have sent out scions of each sort, with their name affixed to each, it will be our own fault if we do not preserve them distinctly. If a portion of each kind should be intrusted to your active member Mr. Manning of Salem, whose intelligence and accuracy in this department is well established, it may be the most certain means of keeping the several species from being blended with other sorts, and thereby hand them down to posterity with their legitimate names.

August 22. A Cultivator.

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Subjoined are a few of the distinguishing characteristics of the trees, Grosse and Petite Reine Claude, together with the descriptions of the fruit of each tree.

Gross Reine Claude.—This fruit is called also—"Dauphine," "Abricot Vert," and "Verte bonne,"—this is the true

GREEN GAGE.

The *shoots* of this tree are thick and their bark brown and smooth, a little reddish on the sunny side, towards their extremities, and green opposite.

The *buds* are medium size, and near together, but their shoulders are very large and projecting.

The *fruit* is large, round, a little depressed at both ends.

The *stalk* medium size—is set in a pretty deep cavity. The furrow which divides this fruit is scarcely perceptible, the fruit being flatted on this side. It is subject to crack if it rains much when it is ripe—they are most esteemed in this state.

The *skin* adheres to the flesh—it is thin, green, spotted with gray, lightly tinged with red on the sunny side.

The *flesh* is a yellowish green—very fine, delicate melting.

The *juice* is abundant, sugared, and of an excellent flavor.

The *stone* adheres partially to the flesh—it is the best of plums.

PETITE REINE CLAUDE.

The shoots of this tree are more slender than those of the Grosse Reine Claude; they are dark red next the sun, and green opposite.

The *buds* are long—very much pointed, and lie nearly flat on the branch—the shoulder is large.

The *leaves* are smaller than those of the Grosse Reine Claude.

The *fruit* is medium size, round, flatted particularly at the end next the stalk, and with a deeper furrow than that of the Reine Claude.

The *skin* is tough—of a whitish green, covered with a very white powder.

The *flesh* is white, firm, rather dry—sometimes melting, but rather course.

The *juice* is sweet—but less flavored than the Grosse Reine Claude—sometimes a little acid.

The *stone* never adheres to the flesh—it is esteemed a good fruit although inferior to the Grosse Reine Claude.

(From the Gardener's Magazine.)

On the Amelioration of Fruit Trees. By J. L., of York, Pennsylvania.

Sir,—M. Poiteau, in a paper on the amelioration of fruits, read before the Société d'Horticulture de Paris, refers to this country as "the grand laboratory of nature to produce new ameliorated fruits." "The colonists," says M. Poiteau, "brought with them some of the ameliorated fruits of Europe, but, as they were occupied with the more important cares incident to their situation, these fruits were not propagated by grafting, but only by seed; in consequence, they found themselves in time possessed only of sour crabs, unfit for the table. In the mean time, a second generation of fruit took place, which were little superior to those of the first. After a third, a fourth, and a fifth generation had succeeded the first, the inhabitants began to perceive some fruits better than those of the preceding generations." He refers for these facts to a tradition communicated to him in Virginia, in 1800. (vol. ii. p. 62.) If I correctly comprehend the theory attempted to be established, it is this: that the seedling of any variety of ameliorated fruit will only produce the sour crab from which it originated; that a second generation will exhibit appearances of improvement; that the third generation will be superior to the second; and that in this manner the improvement will progress, until a fruit is obtained superior to that upon which the experiment commenced. This theory has been occasionally adverted to by the correspondents of the Gardener's Magazine; one of whom, if I mistake not, has stated that, of the seeds in a particular apple, those which are round in shape will invariably produce ameliorated fruit, while that from the others will be but the original crab. (vol. i. p. 223.)

This is a very interesting subject, and one of no little importance; it is, therefore, much to be wished that it had been in the power of M. Poiteau to have furnished us with some other evidence in support of his theory than the Virginian tradition. There is nothing in the history of this country to justify the conclusions which he has drawn. Some of our native fruits have been sent to Europe. I will call your attention to two of these varieties the Spitzenberg apple of New York, and the Baldwin of Massachusetts; both, in all probability, seedlings of the first generation from the ameliorated fruits of Europe. Can it be said of these apples that they are "sour crabs, unfit for the table?" Of the countless thousands of seedling apple trees now bearing fruit in the United States, it is likely that many of a later generation may be found, producing fruit of equal goodness, though I doubt if there is any much superior. More varieties of good fruit have certainly been originated from later generations; but, I apprehend, not because any progressive tendency to improvement exists in the seedling, but because the "laboratory of nature" has been extended. For every seedling tree bearing fruit in 1600, there were in 1700 one hundred; and in 1800 at least one thousand. In something like this proportion have the better fruits been originated. The ameliorated fruits brought from Europe, on the settlement of the country, were but little propagated by budding and grafting, as the people were not skilled in those arts. Many years elapsed before nurseries were established, even in the Atlantic country. In 1800, three fourths of all the trees bearing fruit in the United States were seedlings. Nurseries have been subsequently established in all parts of the country, and none but the best of grafted fruit is now planted; which, in the interior, can be had in any quantity, at eight or ten dollars per hundred trees. Formerly but little attention was in general paid to fruit. Every farm had its orchard of six or ten acres; and, as you know, our farms are small (say they average 100 acres,) the consequence of the equal distribution of property under our intestate laws. In an orchard of this size, of seedling trees, there will always be two or three trees producing sufficient fruit of medium goodness to supply the table of the owner; and, as there was no demand at market for the residue, it would only go to feed the hogs. Under these circumstances, it would scarcely be considered worth while to send some hundred miles to the Atlantic country for grafted trees. The nurseries in the interior are small establishments, and propagate such varieties as are most esteemed in their immediate neighbourhoods. Perhaps in Pennsylvania the Rambo (which is in the Chiswick garden, I believe) has been latterly more extensively planted than any other variety, though I do not know that it has much more than fashion to recommend it. Each section of country has its own varieties of fruit; and in the state of Ohio, containing 1,000,000 of inhabitants, I doubt if there are a dozen trees growing of the two varieties of fruit before referred to, the Spitzenberg and Baldwin. As to the improvement of fruit, nature, in this her "grand laboratory," has done much; but might not art in Europe do more? By the intermixture of the pollen, your friend, Mr. Sweet, can at pleasure vary the shade of a lily or the fragrancy of a rhododendron. Were such unequalled skill directed to the improvement of fruit, the happiest consequences must necessarily result.

After all, sir, is it not to the intermixture of the pollen that variation in fruit is to be attributed? Take a fruit tree of medium excellence; average the opinions of the *Pomological* and *Gardener's Magazine* and call the Hawthornden of Scotland such. Plant it beyond the reach of foreign pollen, and, I apprehend, its seedling offspring will not greatly vary from the parent standard; some of the seedlings will produce better and some worse fruit. If those seedlings are planted so that their pollen intermix, the second generation will exhibit signs of further departure in improvement and deterioration; and this variation will be greater as the soil, climate, and culture are varied: so that, in many generations, if the pollen be not permitted to mix, and the climate and culture remain the same, the departure from the parent standard of goodness will be trifling; but, on the contrary, if the pollen be indiscriminately mixed, and the climate and culture varied, the departure will be great. In the orchards of "natural fruit," as they are called in the United States, a collection of apples could in a few months be obtained quite equal to that of the 1200 in your Horticultural Society's garden. *Cuibono?* The varieties are already too numerous. As to apples and peaches, America excels Europe: as to other fruit, Europe excels America.

We are making some attempts at the culture of the vine. In this country there are about 200 acres planted with vines, after the manner of the French and Germans, 3 ft. by 4 ft. principally of the native species; which, although not to be compared with the Vitis vinifera of Europe, perhaps deserve a more favourable notice than you were pleased to take of them in the *Encyclopædia of Plants*. There may be some hundred individuals in our country who have small vineyards. In a year or two their petitions will be on the tables of Congress, calling for an increase of the duty on foreign wines. This is all the extreme of folly. Here the cultivation of the vine, for wine, should not be thought of for a century to come. Yours, &c. J. L.

York, Pennsylvania, May 1, 1830.

(From the Pougkeepsie Telegraph.)

WILD CHERRY TREE.

Union Vale, August 12.

I have recently lost a number of sheep and suppose their deaths occasioned by eating the wilted leaves of *wild cherry tree;* they survived about twelve hours after eating the leaves. My object in requesting you to notice it in your paper, is to warn others of the danger of cutting trees or bushes of this description at a season of the year when the leaves contain the poisonous quality.

Can any of your readers inform me why this tree that is so much used and esteemed for its medical qualities, contains and imparts to its *leaves* when a little *wilted,* a poison so fatal? What change do the leaves undergo? When fresh and green, cattle and sheep eat them without danger. What medicine can be administered to cattle or sheep to relieve them after having eaten the leaves?.

[*A Farmer in La Grange.*

[We think there can be very little doubt that the wild cherry tree contains a large portion of prussic acid,—one of the strongest poisons known,—and that the cause of the *wilted* leaves being poisonous is owing to a concentration of the acid by the action of the sun and air and by the evaporation of the water. But what is meant by *wild cherry?* Is it the *Cerasus Virginiana*, or *Cerasus borealis*—the wild *black,* or the wild *red* cherry?—*Ed. Amer. Farmer.*]

Imitation is the sincerest flattery.

RURAL ECONOMY.

(From the Library of Useful Knowledge.)

THE COACH-HORSE.

This animal has fully shared in the progress of improvement, and is as different from what he was fifty years ago as it is possible to conceive. The clumsy-barrelled, cloddy-shouldered, round-legged, black family horse, neither a coach nor a dray-horse, but something between both, as fat as an ox, and, with all his pride and prancing at first starting, not equal to more than six miles an hour, and knocking-up with one hard day's work, is no more seen; and we have, instead of him, an animal as tall, deep chested, rising in the withers, slanting in the shoulders, flat in the legs, with even more strength, and with treble the speed.

There is a great deal of deception, however, even in the best of these improved coach-horses. They prance it nobly through the streets; and they have more work in them than the old clumsy, sluggish breed: but they have not the endurance that could be wished,—and a pair of poor post-horses would, at the end of the second day, beat them hollow.

The knee-action, and high lifting of the feet in the carriage-horse is deemed an excellence, because it adds to the grandeur of his appearance; but, as has already been stated, it is necessarily accompanied by much wear and tear of the legs and feet, and this is very soon apparent.

The principal points in the coach horse are, substance well placed, a deep and well proportioned body, bone under the knee, and sound, open, tough feet.

The origin of the better kind of coach-horse is the Cleveland Bay, confined principally to Yorkshire and Durham, with, perhaps, Lincolnshire on one side, and Northumberland on the other, but difficult to meet with pure in either county. The Cleveland mare is crossed by a three-fourth, or thoroughbred horse of sufficient substance and height, and the produce is the coach-horse most in repute, with his arched crest and high action. From the thoroughbred of sufficient height, but not of so much substance, we obtain the four in-hand, and superior curricle-horse.

From less height and more substance we have the hunter and better sort of hackney; and, from the half-bred, we derive the machineer, the poster, and the common carriage-horse: indeed, Cleveland, and the Vale of Pickering, in the east riding of Yorkshire, may be considered as the most decided breeding country in England for coach-horses, hunters, and hacknies. The coach-horse is nothing more than a tall, strong, oversized hunter. The hackney has many of the qualities of the hunter on a small scale.

How far we are carrying supposed improvement too far, and sacrificing strength and usefulness to speed, is a question not difficult to resolve. The rage for rapid travelling is the bane of the post master, the destruction of the horse, and a disgrace to the English character.

There is no truth so easily proved, or so painfully felt by the postmaster. at least in his pocket, as that *it is the pace that kills.* A horse at a dead pull, or at the beginning of his pull, is enabled, by the force of his muscles, to throw a certain weight into the collar. If he walk four miles in the hour, some part of that muscular energy must be expended in the act of walking; and, consequently, the power of drawing must be proportionably diminished. If he trot eight miles in the hour, more animal power is expended in the trot, and less remains for the draught; but the draught continues the same, and, to enable him to accomplish his work, he must tax his energies to a degree that is cruel in itself, and that must speedily wear him out.

Let it be supposed—what every horse cannot accomplish—that he shall be able, by fair exertion and without distress, to throw, at a dead pull, a weight into his collar, or exert a force equal to two hundred and sixteen pounds; or, in other words, let him be able to draw a load which requires a force of two hundred and sixteen pounds to move. Let him next walk at the rate of four miles in an hour: what force will he then be able to employ? We have taken away some to assist him in walking, and we have left him only ninety-six pounds, being not half of that which he could exert when he began his pull He shall quicken his pace to six miles an hour—more energy must be exerted to carry him over this additional ground. How much has he remaining to apply to the weight behind him? Fifty-four pounds only. We will make the six miles an hour ten; for it seems now to be the fashion for the fast coach, and for almost every coach, and every vehicle to attempt this pace. How stands the account with the poor beast? We have left him a power equal to thirty-two pounds only to be employed for the purpose of draught.

The load which a horse can draw is about fifteen times greater than the power exerted, supposing the road to be hard and level, and the carriage to run with little friction; and the horse which at starting can throw into the collar a weight or force equal to two hundred and sixteen pounds, will draw a load of three thousand two hundred. Let him, however, be urged on at the rate of ten miles in the hour—deduct the power used in swiftness of pace from the sum total of that which he possesses, and what remains?—not a sixth part—not that which is equal to a quarter of a ton—or, if it be a stage-coach, the energy exerted in draught by the four horses will not be equal to a ton.

The coach, and its passengers and its luggage, weigh more than this, and the whole is still drawn on, and must be so. Whence comes the power? From the over-strained exertion, the injury, the torture, the destruction of the horse. That which is true of the coach horse, is equally true of every other. Let each reader apply it to his own animal, and act as humanity and interest dictate.

Many a horse used on our public roads is unable to throw all his natural power or weight into the collar. He is tender-footed—lame; but he is bought at little price, and he is worked on the brutal and abominable principle, that he may be "*whipped sound.*" And so apparently he is. At first he sadly halts; but, urged by the torture of the lash, he acquires a peculiar habit of going. The faulty limb appears to keep pace with the others, but no stress or labour is thrown upon it, and he gradually contrives to make the sound limbs perform among them all the duties of the unsound one; and thus he is barbarously "whipped sound," and cruelty is undeservedly rewarded. After all, however, what has been done? Three legs are made to do that which was almost too hard a task for four. Then they must be most injuriously strained, and soon worn out, and the general power of the animal must be rapidly exhausted, and, at no great distance of time, exhaustion and death release him from his merciless persecutors.

It is said that between Glasgow and Edinburgh, a carrier in a single horse cart, weighing about seven hundred weight, will take a load of a ton. and at the rate of twenty-two miles in a day. The Normandy carriers travel with a team of four horses. and from fourteen to twenty-two miles in a day, with a load of ninety hundred weight.

An unparalleled instance of the power of a horse when assisted by art, was shewn near Croydon. The Surrey iron railway being completed. a wager was laid by two gentlemen, that a common horse could draw thirty-six tons for six miles along the road. and that he should draw his weight from a dead pull, as well as turn it round the occasional windings of the road. A numerous party of gentlemen assembled near Merstham to see this extraordinary triumph of art. Twelve wagons loaded with stones, each wagon weighing above three tons, were chained together, and a horse, taken promiscuously from the timber cart of Mr. Harwood, was yoked to the train. He started from the Fox public-house, near Merstham, and drew the immense chain of wagons, with apparent ease, almost to the turnpike at Croydon, a distance of six miles, in one hour and forty-one minutes, which is nearly at the rate of four miles an hour. In the course of the journey he stopped four times, to shew that it was not by any advantage of descent that this power was acquired; and after each stoppage he again drew off the chain of wagons with great ease. Mr. Banks, who had wagered on the power of the horse, then desired that four more loaded wagons should be added to the cavalcade, with which the same horse set off again with undiminished pace. Still further to shew the effect of the railway in facilitating motion, he directed the attending workmen, to the number of fifty, to mount on the wagons, and the horse proceeded without the least distress; and, in truth, there appeared to be scarcely any limitation to the power of his draught. After this trial the wagons were taken to the weighing-machine, and it appeared that the whole weight was as follows:—

	Ton.	*Cwt.*	*Qr.*
12 Wagons first linked together	38	4	2
4 Ditto, afterwards attached	13	2	0
Supposed weight of fifty labourers	4	0	0
	55	6	2

HEAVY DRAUGHT HORSES.

The Cleveland horses have been known to *carry* more than seven hundred pounds sixty miles in twenty-four hours, and to perform this journey four times in a week; and mill-horses have carried nine hundred and ten pounds two or three miles.

Horses for slower draught, and sometimes even for the carriage, are produced from the Suffolk Punch, so called from his round punchy make, and descended from the Norman stallion and the Suffolk cart mare. The true Suffolk, like the Cleveland, is now nearly extinct. It stood from fifteen to sixteen hands high, of a sorrel colour; was large headed; low shouldered, and thick on the top; deep and round chested; long backed; high in the croup; large and strong in the quarters; full in the flanks; round in the legs; and short in the pasterns. It was the very horse to throw his whole weight into the collar, with sufficient activity to do it effectually, and hardihood to stand a long day's work.

The present breed possesses many of the peculiarities and good qualities of its ancestors. It is more or less inclined to a sorrel colour; it is a taller horse; higher and finer in the shoulders; and is a cross with the Yorkshire half or three-fourths bred.

The excellence, and a rare one, of the old Suffolk (the new breed has not quite lost it) consisted in nimbleness of action, and the honesty and continuance with which he would exert himself at a dead pull. Many a good draught-horse knows well what he can effect; and, after he has attempted it and failed, no torture of the whip will induce him to strain his powers beyond their natural extent. The Suffolk, however, would tug at a dead pull until he dropped. It was beautiful to see a team of true Suffolks, at a signal from the driver, and without the whip, down on their knees in a moment, and drag every thing before them. Brutal wagers were frequently laid as to their power in this respect, and many a good team was injured and ruined. The immense power of the Suffolk is accounted for by the low position of the shoulder, which enables him to throw so much of his weight into the collar.

Although the Punch is not what he was, and the Suffolk and Norfolk farmer can no longer boast of ploughing more land in a day than any one else, this is undoubtedly a valuable breed.

The Duke of Richmond obtained many excellent carriage horses, with strength, activity, and figure, by crossing the Suffolk with one of his best hunters.

The Suffolk breed is in great request in the neighbouring counties of Norfolk and Essex. Mr. Wakefield, of Barnham in Essex, had a stallion for which he was offered four hundred guineas.

The CLYDESDALE is a good kind of draught-horse, and particularly for farming business and in a hilly country. It derives its name from the district on the Clyde in Scotland, where it is principally bred. The Clydesdale horse owes its origin to one of the Dukes of Hamilton, who crossed some of the best Lanark mares with stallions which he had brought over from Flanders. The Clydesdale is larger than the Suffolk, and has a better head, a longer neck, a lighter carcase, and deeper legs; strong, hardy, pulling true, and rarely restive. The southern parts of Scotland are principally supplied from this district; and many Clydesdales, not only for agricultural purposes, but for the coach and the saddle, find their way to the central, and even southern counties of England. Dealers from almost every part of the united kingdom attend the markets of Glasgow and Rutherglen.

The HEAVY BLACK HORSE is the last variety it may be necessary to notice. It is bred chiefly in the midland counties from Lincolnshire to Staffordshire. Many are bought up by the Surrey and Berkshire farmers at two years old,—and being worked moderately until they are four, earning their keep all the while, they are then sent to the London market, and sold at a profit of ten or twelve per cent.

It would not answer the *breeder's* purpose to keep them until they are fit for town-work. He has plenty of fillies and mares on his farm for every purpose that he can require; he therefore sells them to a person nearer the metropolis, by whom they are gradually trained and prepared. The traveller has probably wondered to see four of these enormous animals in a line before a plough, on no very heavy soil, and where two lighter horses would have been quite sufficient. The farmer is training them for their future destiny; and he does right in not requiring the exertion of all their strength, for their bones are not yet perfectly formed, nor their joints knit; and were he to urge them too severely, he would probably injure and deform them. By the gentle and constant exercise of the plough, he is preparing them for that *continued and equable* pull at the collar, which is afterwards so necessary. These horses are adapted more for parade and shew, and to gratify the ambition which one brewer has to outvie his neighbour, than for any peculiar utility. They are certainly noble-looking animals, with their round fat carcases, and their sleek coats, and the evident pride which they take in themselves; but they eat a great deal of hay and corn, and at hard and long-continued work they would be completely beaten by a team of active muscular horses an inch and a half lower.

The only plea which can be urged in their favour, beside their fine appearance, is, that as shaft-horses, over the badly-paved streets of the metropolis, and with the immense loads they often have behind them, great bulk and weight are necessary to stand the unavoidable shaking and battering. Weight must be opposed to weight, or the horse would sometimes be quite thrown off his legs. A large heavy horse must be in the shafts, and then little ones before him would not look well.

Certainly no one has walked the streets of London without pitying the poor thill-horse, jolted from side to side, and exposed to many a bruise, unless, with admirable cleverness, he accommodates himself to every motion; but, at the same time, it must be evident, that bulk and fat do not always constitute strength, and that a compact muscular horse, approaching to sixteen hands high, would acquit himself far better in such a situation. The dray-horse, in the mere act of ascending from the wharf, may display a powerful effort, but he afterwards makes little exertion, much of his force being expended in his own overgrown mass.

These heavy horses are bred in the highest perfection, *as to size*, in the fens of Lincolnshire, and few of them are less than seventeen hands high at two and a half years old. Neither the soil, nor the produce of the soil, is better than in other counties; on the contrary, much of the lower part of Lincolnshire is a cold, hungry clay. The true explanation of the matter is, that there are certain situations better suited than others to different kinds of farming, and the breeding of different animals; and that not altogether depending on richness of soil or pasture. The principal art of the farmer is, to find out what will best suit his soil, and the produce of it.

A dray horse should have a broad breast, and thick and upright shoulders, (the more upright the collar stands on him the better;) a low forehand, deep and round barrel, loins broad and high, ample quarters, thick fore-arms and thighs, short legs, round hoofs, broad at the heels, and soles not too flat. The great fault of the large dray-horse is, his slowness. This is so much in the breed, that even the discipline of the ploughman, who would be better pleased to get through an additional rood in the day, cannot permanently quicken him. Surely the breeder might obviate this. Let a dray-mare be selected, as perfect as can be obtained. Let her be put to the strongest, largest, most compact, thorough-bred horse. If the produce be a filly, let her be covered by a superior dray-horse, and the result of this cross, if a colt, will be precisely the animal required to breed from.

The largest of this heavy breed of black horses are used as *dray-horses;* the next in size are sold as wagon horses, and a smaller variety, and with more blood, constitutes a considerable part of our *cavalry,* and is likewise devoted to undertaker's work.

All our heavy draught horses, and some even of the lighter kind, have been lately much crossed by the Flanders breed, and with evident improvement. Little has been lost in depth and bulk of carcase; but the fore-hand has been raised, the legs have been flattened and deepened, and very much has been gained in activity. The slow heavy black, with his two miles and a half an hour, has been changed into a lighter, but yet exceedingly powerful horse, who will step four miles in the same time, with perfect ease, and has considerably more endurance.

FLOUR FOR SHEEP.

M. Maitre a great agriculturist and breeder of sheep, near Chatillon-sur-Seine, about a year ago, conceived the idea, that not only the straw of corn, but the dried stalks of clover, lucerne, &c. might be ground into flour. His experiments have been crowned with complete success, and he has obtained a kind of flour, somewhat similar in quality to that of bruised fodder. This alemial is a substitute for bran, and is an agreeable and substantial food for sheep and lambs, who seek it with avidity.

BEE MOTH.

A friend informs us, he has discovered by experiment that dry comb laid about hives, forms a trap for the bee moth, by attracting the miller, which deposites its eggs in the comb, where they are easily destroyed. A piece of comb which he placed for the purpose, was completely filled with the moths.

[*Western Tiller.*

NEW TREATISE ON SILK.—Carter, Hendee and Babcock of Boston have in press a new treatise on the culture of the White Mulberry tree and the raising of silk worms, by Jonathan H. Cobb, Esq.—prepared under the direction of his excellency governor Lincoln, agreeably to a resolve of the Massachusetts legislature passed last February—the treatise to be distributed through the several towns of the Commonwealth.—*N. E. Farmer.*

MISCELLANEOUS.

CEMENT FOR IRON WATER PIPES.

M. Gueymard in an interesting statement of the introduction of water into the city of Grenoble, employs a mastic to connect the pipes, which he names *aquin.* He thus describes the process of its manufacture—"I mingle" says he "98 parts of cast iron filings, passed through a coarse seive, and oxidised with one part of flowers of sulpher: when intimately mixed. I take one part of sal-ammoniac and dissolve it in boiling water, and pour this solution on the preceding mixture and agitate it thoroughly.—The quantity of water ought to be such as to reduce the whole to the consistency of common mortar. This cement disengages a great quantity of heat and ammonia, and should be immediately used. It is pressed forcibly into the joints, and after drying two or three days in the open air in summer, and from seven to eight days in winter, the pipes may be covered with an assurance of their solidity." In all the basins or reservoirs of Grenoble, this cement only is used, and the joints prove to be as tight as if cast iron had been melted and poured into them, or as if the cisterns were made of glass. They stand in no need of repairs—and the same cement may be used in all cases of hewn stone, and in other solid works that are exposed to the weather, as in bridges, aqueducts, conduits, &c.

NOVEL MODE OF THRESHING IN SPAIN.

Their mode of threshing is perfectly primitive. Several pieces of ground in the neighbourhood of the town, are allotted for this purpose, to which all the produce of the adjacent country is brought. A thick board, six feet in length and four in width, is perforated with holes, in which are placed large flint stones, projecting about half an inch. On the front of this board a man takes his place, on a seat provided for that purpose, and a number of oxen or mules are fastened to it with cords. The corn in the straw is then strewn on the ground, in a circle formed with stones, and this extraordinary implement of husbandry is then dragged over it, a man standing in the centre of the circle assisting the driver to flog the beasts to their utmost speed. A drove of loose cattle are also driven over it, so that the sharp flint and the hoofs of the mules and oxen do the work of threshing very completely. The straw is, by these means, torn into small particles, which is packed in nets and sent to Madrid as provender for horses and mules. Their method of winnowing is by throwing the undressed corn against the wind, which separates it from the chaff. I was told of an American, who, taking compassion on the unenlightened natives, and seeing the prospect of a good profit, introduced one of our threshing machines, and undertook to thresh the farmers' corn at a trifling expense per bushel. On the first day he succeeded admirably, but on the next, when the speculator went to resume his labours, to his utter consternation he found the engine which was to work him wealth, broken into atoms, and dispersed in every possible direction. On inquiry, he found the country people had consulted on its efficiency, and came to a resolution, in which they were assisted by the parish priest, that the devil was inside the engine, and they were determined, as good Christians, to have nothing to do with *him*, but in the fair way of trade!—*Spanish Highways and Byways.*

NEW BOTANICAL MAGAZINE.

Messrs. D. & C. Landreth intend publishing in Philadelphia, early in November, the first number, to be continued monthly, in a quarto form, embellished with four lithographic engravings, the price not to exceed eight dollars per annum.

[*Phil. Am. Daily Ad.*

(From the Journal of a Naturalist.)

FLOWERS OF PLANTS.

There is no part of a vegetable which we usually admire more than its flowers, for that endless variety of colours, shades, forms, and odors, with which they are endowed; yet the utility of the blossom is by no means obvious. Linnæus calls the corolla the arras, the tapestry of the plant; and we are perfectly sensible that the blossom, in very many instances, is essential in various ways to securing and perfecting the germen; that it often contains the food of multitudes of insects, which feed on the pollen, the honey, or the germen; and that the odor emitted by it leads frequently various creatures to the object in request, and by their agency the fecundation and perfecting of the seeds are often effected; but we are astonished at the elaborate mechanism and splendor of some species, and see the whole race of creation, with the exception of man, utterly regardless of them. Butterflies and other insects will bask on expanded flowers, and frequent their disks, but it is in wantonness, or to feed on the sweet liquors they contain. The carpenter bee, that every summer cuts its little circular patches in such quantities from my roses, to line its nest in the old garden door, selects the green leaves only, chiefly from the China, Provence, and damask kinds,* passing over the petals of their blossoms as useless. That splendid insect the rose beetle, (cetonia aurata,) that beds and bathes in sweetness, will partially eat the flowers of some species of roses, and "lap the nectar they produce;" and a few others nibble a little; but the liliaceous tribes, and other glorious flowers, as far as we know, furnish to insects no supply, but expand, wither, and die, unnoticed but by the eye of man alone. Flowers that are grand, gay, cheerful or beautiful, predominate infinitely over those that are of a sombre hue or gloomy aspect.

Employment and occupation were as much the design, as they are found to be essential to the happiness of human life: we are not all constituted to soar in the higher regions of scientific research; our dispositions are as various as our intellects. Horticulture was the first occupation instituted for man, and he cannot pursue a more innocent and harmless employ: we were given "every herb, and every tree upon the face of the earth," for food or raiment, the immediate necessities of man, a very few of them are applicable; but we can collect them for amusement, in admiration of their beauty. Without this beauty, they would be no object of research; and man, who is exclusively sensible of its existence, can alone find pleasure in viewing it. The mind that is delighted with such admiration, must be almost insensibly led to an attendant pleasure, the contemplation, the perception of infinite wisdom and power, manifested in the adornment, splendor, and formation, of even the simplest flower of the field. I would not arrogate for man an exclusive right, or make him generally the sole consideration of the benificence of Providence; but there are influences, which his reason can alone perceive, incitements to good thoughts and worthy actions.

Flowers, in all ages, have been made the representatives of innocence and purity. We decorate the bride, and strew her path with flowers; we present the undefiled blossoms, as a similitude of her beauty and untainted mind; trusting that her destiny through life will be like theirs, grateful and pleasing to all. We scatter them over the shell, the bier, and the earth, when we consign our mortal blossoms to the dust, as emblems of transient joy, fading pleasures, withered hopes; yet rest in sure and certain trust that each in due season will be renewed again. All the writers of antiquity make mention of their uses and application in heathen and pagan ceremonies, whether of the temple, the banquet, or the tomb; the rites, the pleasures, or the sorrows of man; and in concord with the usages of the period, the author of the "Book of Wisdom" says, "Let us crown ourselves with rose buds and flowers before they wither." All orders of creation, "every form of creeping things and abominable beasts," have been, perhaps, at one time or another, by some nation or sect, either the objects of direct worship, or emblems of an invisible sanctity; but though individuals of the vegetable world may have veiled the mysteries, and been rendered sacred to particular deities and purposes, yet in very few instances, we believe, were they made the representatives of a deified object, or been bowed down to with divine honours. The worship of the one true Being could never have been polluted by any symbol suggested by the open flowers and lily-work of the temple.

The love of flowers seems a naturally implanted passion, without any alloy or debasing object as a motive: the cottage has its pink, its rose, its polyanthus; the villa, its geranium, its dahlia, and its clematis: we cherish them in youth, we admire them in declining days; but, perhaps, it is the early flowers of spring that always bring with them the greatest degree of pleasure, and our affections seem immediately to expand at the sight of the first opening blossom under the sunny wall, or sheltered bank, however humble its race may be. In the long and sombre months of winter, our love of nature, like the buds of vegetation, seems closed and torpid; but, like them, it unfolds and re-animates with the opening year, and we welcome our long-lost associates with a cordiality, that no other season can excite, as friends in a foreign clime. The violet of autumn is greeted with none of the love with which we hail the violet of spring; it is unseasonable, perhaps it brings with it rather a thought of melancholy than of joy; we view it with curiosity, not affection, and thus the late is not like the early rose. It is not intrinsic beauty or splendor that so charms us, for the fair maids of spring cannot compete with the grander matrons of the advanced year; they would be unheeded, perhaps lost, in the rosy bowers of summer and of autumn; no, it is our first meeting with a long-lost friend, the reviving glow of a natural affection, that so warms us at this season; to maturity they give pleasure, as a harbinger of the renewal of life, a signal of awakening nature, or of a higher promise; to youth they are expanding being, opening years, hilarity and joy; and the child, let loose from the house, riots in the flowery mead, and is

"Monarch of all he surveys."

There is not a prettier emblem of spring than an infant sporting in the sunny field, with its osier basket wreathed with butter-cups, orchises, and daisies. With summer flowers we seem to live as with our neighbours, in harmony and good-will; but spring flowers are cherished as private friendships.

The amusements and fancies of children, when connected with flowers, are always pleasing, being generally the conceptions of innocent minds unbiassed by artifice or pretence; and their love of them seems to spring from a genuine feeling and admiration, a kind of sympathy with objects as fair as their own untainted mind; and I think that it is early flowers which constitute their first natural playthings; though summer presents a greater number and variety, they are not so fondly selected. We have our daisies strung and wreathed about our dress; our coronals of orchises and primroses: our cowslip balls, &c.; and one application of flowers at this season I have noticed, which, though perhaps it is local, yet it has a remarkably pretty effect, forming, for the time, one of the gayest little shrubs that can be seen. A small branch or long spray of the white-thorn, with all its spines uninjured, is selected; and on these its alternate thorns, a white and blue violet, plucked from their stalks, are stuck upright in succession, until the thorns are covered, and when placed in a flower-pot of moss, has perfectly the appearance of a beautiful vernal flowering dwarf shrub, and as long as it remains fresh is an object of surprise and delight.

No portion of creation has been resorted to by mankind with more success for the ornament and decoration of their labors than the vegetable world. The rites, emblems, and mysteries of religion; national achievement, eccentric masks, and the capricious visions of fancy, have all been wrought by the hand of the sculptor, on the temple, the altar, or the tomb; but plants, their foliage, flowers, or fruits, as the most graceful, varied, and pleasing objects that meet our view, have been more universally the object of design, and have supplied the most beautiful, and perhaps the earliest, embellishments of art.—The pomegranate, the almond, and flowers, were selected, even in the wilderness, by divine appointment, to give form to the sacred utensils; the reward of merit, the wreath of the victor. were arboraceous. In later periods, the acanthus, the ivy, the latus, the vine, the palm, and the oak, flourished under the chisel, or in the room of the artist; and in modern days, the vegetable world affords the almost exclusive decorations of ingenuity and art.

The cultivation of flowers is of all the amusements of mankind the one to be selected and approved as the most innocent in itself, and most perfectly devoid of injury or annoyance to others; the employment is not only conducive to health and peace of mind, but probably more good-will has arisen, and friendships been founded by the intercourse and communication connected with this pursuit than from any other whatsoever: the pleasures, the ecstacies of the horticuturist are harmless and pure; a streak, a tint, a shade, becomes his triumph, which though often obtained by chance, are secured alone by morning care, by evening caution, and the vigilance of days: an employ which, in its various grades, excludes neither the opulent nor the indigent, and teeming with boundless variety, affords an unceasing excitement to emulation without contempt or ill-will.

The bouquet may be an exile now, but the revolutions of fashion will surely return this beautiful ornament to favour again. With us the nosegay yet retains its station as a decoration to our Sunday beaux; but at our spring clubs and associations it becomes an essential, indispensable appointment; a little of the spirit of rivalry seeming to animate our youths in the choice and magnitude of this adornment. The superb spike of a Brompton, or a ten week's stock, long cherished in some sheltered corner for the occasion, surrounded by all the gaiety the garden could afford, till it presents a very bush of flowers, forms the appendage of their bosoms, and, with the gay knots in their hats, their best garments, and the sprightly hilarity of their looks, constitutes a pleasing village scene, and gives an hour of unencumbered felicity to common man and rural life, not yet disturbed by refinement and taste.

THE FARMER.

Baltimore, Friday, Sept. 2, 1831.

Gooseberries.—A respected correspondent requests information as to the manner of cultivating gooseberries practiced by Mr. M'Kim, who has been so uniformly successful with this delicious fruit. Many gentlemen have made the same request, and we have taken some pains to obtain a detail of the process. The result is, that, except the selection of good varieties in the first instance, there is no particular or unusual mode pursued. The varieties are the best of the English and Scotch kinds, the green, the red, and the amber fruited. The bushes occupy the borders of the avenues of a fruit garden, in which there are many pear, cherry, and plum trees; so that all the bushes are shaded more or less in the course of the day, but some much more so than others but they all bear fruit equally well. The ground is pretty rich, and well cultivated. There is one peculiarity about the garden that may have an influence on the gooseberries—the garden is small and surrounded on the east, south and west, by buildings, and by a high board fence on the north, by which means the wind from all quarters is excluded from the gooseberry bushes. It is possible that this may contribute to the perfection of the fruit in this case, though Mr. M'Kim's gardener does not attribute his success to any particular mode of cultivation or system of precaution.

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*This bee does not exclusively make use of the leaves of the rose for its purposes, as I have known it in some seasons cut away the young foliage of cytisus laburnum, even when growing in company with its favourite rose.

SEEDLING APPLES AND PEARS.

Mr. Smith: *Columbia, Pennsylvania, August*, 1831.

We have several varieties of apples and pears in this neighbourhood considered very fine, and which I believe are not as extensively known as they deserve to be. I therefore take the liberty of forwarding you a box by the stage, of several varieties now in season, I would consider it a favour of you to give your opinion concerning them, and if thought worthy of dissemination, I can send you any quantity of grafts in the winter.

Summer Sweet Paradise:—A large, greenish yellow apple, (its other qualities you will judge of yourself,) tree grows very large, spreading, and with age drooping, requires severe pruning to keep it regular, leaves large and dark green, good bearer every second year, believed to have originated in this county.

I have no name for the red streaked, possibly may be synonymous with some well known variety.

Shenk's Pear:—This was raised from the seed by Mr. Shenk, two miles from me, about 30 years since, and is considered a very superior pear by all who are acquainted with it; the original tree bears profusely, those I send are, however, very unsuitable specimens; the last I had, being full of knots, occasioned by the *curculio*, I had them to measure 11½ *inches in circumference*, about ten days past.

The small pear with a long neck and stem is also a seedling raised by my father about 20 years since, quality middling, rather dry when perfectly ripe.

I also enclose a vial, containing 3 peach flies, parent of the worm that destroys the roots of peach trees, and a parcel of *curculios*, the most injurious insects to fruits of any in existence,—both these insects are probably no strangers to you, I however thought I would add them.

In a few weeks I will send you a list of my grape vines, with a short account of their suitableness to my locality. I have about 60 or 70 varieties of foreign and native, the foreign, however, are very few in number that have any appearance of succeeding.

I had intended to have sent you a box of the grapes, but believe I shall be obliged to delay this another year.

Respectfully yours,

Jacob B. Garber.

[The fruit has been received and is truly excellent. The "Summer Sweet Paradise" apple is decidedly the best sweet apple we have seen. It is large, and of a rich and peculiar flavor. The apples measured from ten to eleven inches in circumference, and resemble closely the fruit called the Belvidera Pippin. The Red-streak is also new to us. It resembles the common red-streak, but its colors are lighter and brighter. It is a very good apple. The Pears, especially *Shenks'*, are very fine—very far superior to any of our common pears. They are high flavored, rich, and melting, being to our taste superior to the Seckel, on account of the aroma, which is absent in the latter. The small pear is also a good one, and the two, as well as the apples, would be an acquisition to our orchards. We are much obliged to our respected friend for putting it in our power to call public attention to these fruits, and request him to send us some grafts of the different kinds at the proper season, and we will distribute them amongst our horticulturists, several of whom have requested them. We take this occasion to suggest that specimens of new, rare, or very fine fruit or flowers, be sent to our office for exhibition. We will do all we can to bring them into notice, and where names are unknown or doubtful, we will endeavour to ascertain the true ones.]

Prices Current in New York, August 27.

Beeswax, yellow 18 a 21. *Cotton*, New Orleans .10 a .12; Upland, .7½ a .10; Alabama, .8 a 11½. *Cotton Bagging*, Hemp, yd. 14½ a 17; Flax 13 a 14½; *Flax*, American, 7 a 8.—---*Flaxseed*, 7 bush. clean .—--- a .—— *Flour*, N. York, bbl. 5.00 a 5.25; Canal, 5.43 a 5.62; Balt. Hwd. st. 5.37 a 5.50; Rh'd. city mills —— a —— country, 5.50 a 5.75; Alexand'a, 5.00 a 5.25; Fredericksburg —-- a 5.00; Petersg. 5.75 a 6.00; Rye Flour, —-- a 3.62; Indian Meal, per bbl. 3.62 a 3.75; per hhd. 17.00 a 17.25; *Grain*, Wheat, North, 1.08 a 1.13; Vir. 1.13 a —--; Rye, North, 80 a 81; Corn, Yel. Nor. 74 a 75; Barley — a —; Oats, South and North, .36 a .42; Peas, white, dry, 7 bu. 5. Beans, 7 bu. 7.00 a 8 00. *Provisions*, Beef, mess 8.50 a 8.75; prime 5.00 a 5.50; cargo 4.62½ a 5.00; Lard, 11 a .12; Pork, mess, bbl. 14.00 a 14.75; prime 10.00 a 11.50.

ELKWOOD ESTATE.

To be sold, that well known, and highly valuable estate in the county of Culpeper, Virginia, about 30 miles from Fredericksburg, late the property of Mr. Carter Beverly, and afterwards of Mr. John S. Thornton, but now in the occupancy of Mr. John Browning, who is going to England. The estate is so well known for the fertility of its soil, and the beauty of its situation, that a particular description is unnecessary. The mansion house is in excellent repair, and is happily placed on a gentle eminence in the centre of the property. It is bounded on the east, northeast, north, and northwest, by the river Rappahanock, on the banks of which lie near 700 acres of fertile land, the most part river bottom, at present in the highest state of cultivation, and covered with luxuriant crops of clover. The surrounding uplands produce excellent wheat, rye, and oats, and there is a sufficient body of wood to maintain the fences. It has likewise the singular advantage of a small stream passing through it, which never fails; so that all the fields are well watered, and there is a capital mill site on which formerly stood a merchant mill, and saw mill. The farm building, barn, cornhouse, overseer's house, negro quarters, &c. are at a convenient distance from the mansion house, and afford the most ample accommodation

The property will be sold by public auction in June next, 1832, altogether or in lots, as may suit the purchasers, should it not be disposed of in the mean time by private contract, and ample time will be allowed for the payment of the purchase money. It is presumed an estate so well calculated for the residence of a gentleman, on account of the beauty of its situation, and substantial improvements, cannot be found in Virginia. It is estimated to contain about 1331 acres, and is remarkable for the salubrity of its air, and the absence of marsh and stagnant waters. Letters, post paid, may be addressed to the proprietor, at the post office, Stevensburg, Culpeper county, Virginia, and the premises may be viewed at any time.

August 19.

Agents for the American Farmer.

The following persons are authorised to act as Agents for the American Farmer in their several places of residence:

Boston,	John B. Russell, *N. E. Farmer Office.*
New-York,	J. H. Gourlie, *at the Post Office.*
Philadelphia,	D. & C. Landreth, *Chestnut street.* B. E. Freymuth.
Washington, D. C.	P. Thompson.
Fredericksburg, Va.	Wm. F. Gray, *Post Master.*
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Nashville, Ten.	Eichbaum & Norvell
Natchez, Mis.	Frederick Staunton.
Port Gibson, Mis.	Passmore Hoopes.

General Agent for the State of Maryland, T. B. Brenan.

BALTIMORE PRICES CURRENT.

Baltimore Market.—There is scarcely any variation in the prices of country produce since our last. Howard street flour is a shade higher than last week, the wagon price being $5.56¼. An increased demand would, in the present limited supply, cause a further advance. In wheat and other grains there is no material change; rye is worth a few cents more than at our last. Wool, beef on the hoof, wood, &c. remain stationary.

Tobacco.—-Seconds, as in quality, 3.00 a 5.00; do ground leaf, 5.00 a 9.00.—-Crop, common, 3 00 a 5.00; brown and red 4.00 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 10.00; yellow and red, 8.00 a 14.00; yellow, 14.00 a 16.00.—Fine yellow, 16.00 a 20.00.—Virginia, 4.00 a 5.00.—Rappahannock, 3.00 a 4.00——Kentucky, 3.50 a 8.00. The inspections of the week comprise 681 hhds. Md.; 69 hhds Ohio; and 29 hhds. Kentucky;—total 779 hhds.

Flour—best white wheat family, $6 00 *a* 6.50; super Howard-st. fresh $5 62½ *a* 5 68; city mills, fresh, 5.25. 5.50; Susq.— *a* —; Corn Meal, bbl. 3 50; Grain, Md. red wheat, 90 *a* 1.12½; white do. 1.10 *a* 1.22, Susq. — *a* ——Corn, white, 64 *a* 65--yellow 65 *a* 67 Rye, 65 *a* 70. Oats, .30 *a* 33. Beans, 75 *a* 60--Peas, 65 *a* 70—Cloverseed 5.00 *a* 5.50-Timothy, 2.00 *a* 2.50—Orchard Grass 1.25 *a* 1.75—Tall Meadow Oat Grass 2.75--Herd's, 50 *a* 75--—Lucerne 30 *a* 37½ lb.——Barley, ——Flaxseed —-- *a* ——Cotton, Va. 9 *a* 9½——Louisiana 11 *a* 18 —Alab. 9½ *a*. 11—Tenn.. 9 *a*.———N. Car.. 9 *a*. 9½— Upland 8 *a* 9½-Whiskey, hhds. 1st p. 32½ *a* 33—; in hbls 34½ *a* 35-—Wool, *Washed*, Prime or Saxony Fleece 58 *a* 67; American Full Blood, 50 *a* 58; three quarters do. 44 *a* 50; half do. 38 *a* 44; quarter and common do. 35 *a* 38. *Unwashed*, Prime or Saxony Fleece, 36 *a* 40; American Full Blood, 33 *a* 35; three quarters do. 30 *a* 33; half do. 28 *a* 30; quarter and common, 25 *a* 28—— Hemp Russia ton, $255 *a* —; Country, dew-rotted. 5½ *a* 7c. lb. water-rotted, 7 *a* 9c.—Feathers, 35 *a* 36; Plaster Paris per ton, 4.25 *a* —, ground, 1.37½ *a* — bbl. Iron, gray pig for foundries per ton 33.00 *a* ——; high pig for forges, per ton, 28.00 *a* 30.00; bar Sus. per ton, 72.50 a 80.00.—Prime Beef on the hoof, 4.75 *a* 5.25— Oak wood, 3.00 *a* 3.25--Hickory, 4.25 *a* 4.50—Pine 2.00 *a* 2.25.

CONTENTS OF THIS NUMBER.

Management of Farms in England; Reports of Select Farms, No. 1, by Henry Gawler, Esq. concluded--General Observations and Maxims for the Management of a Farm—Mr. Coke of Norfolk, the great English Farmer—Re Rustica, No. VI. Extracts from Columella; of Working Cattle—Wheat Crop in New York—Fruits—On the Amelioration of Fruit Trees—The Wild Cherry Tree—The Coach Horse—The Heavy Draught Horse—-Flour for Sheep—Bee Moth-—Cement for Iron Water Pipes—Novel Mode of Threshing in Spain—New Botanical Magazine—Flowers of Plants—Editorial, Gooseberries; Seedling Apples and Pears—Prices Current in New York and Baltimore—Advertisement.

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TERMS.

1. Price five dollars per annum, due at the middle of each year of subscription.
2. Subscriptions are in all cases charged *by the year*, and never for a shorter term.
3. When once sent to a subscriber, the paper will not be discontinued without his special order; and then not till the end of the year of his subscription that shall be current at the time of receiving such order; except at the discretion of the publisher.
4. The risk of mail in the transportation of both the paper, and of bank notes sent in payment for it, is assumed by the publisher.
5. Advertisements connected with any of the subjects of the American Farmer, inserted *once*, (seldom more) at one dollar per square.
6. All letters concerning this paper must be directed to the publisher. They must be free of postage, except communications intended for publication, and letters containing money.

☞ All Postmasters are requested to act as agents for the Farmer; they are authorised to retain $1 for each new subscriber, and 10 per cent. on *all other* collections.

Printed by John D. Toy, corner of St. Paul and Market streets.

AGRICULTURE.

SEA-WARE, MARSH MUD, &c.

Talbot County, Eastern Shore, Md.
August 30, 1831.

Mr. Smith:

Sea-ware is thrown on our shores, in considerable quantities, and we have had numerous banks of partially decomposed oyster-shells, but they are now nearly exhausted. Many have made their lands rich by the application of these materials, and the more modern ones—marsh-mud, and the heads of creeks. It may be encouraging to "Potomac," and such of his neighbours as have the good fortune to possess these precious treasures, to know that the annals of this county afford instances of more rapid improvement from them, aided by well managed farm-yards, than that mentioned by the late Mr. Singleton from shell-marl. That nothing has been written on the subject in this quarter is owing to the general knowledge of their value:—the time for experiments in regard to them has gone by. They have been used extensively for thirty years—partially, much longer.

One good dressing of Indian bank shells is *sufficient*. The sea weed may be applied with advantage to every new crop:—they act together better than separately—and better still combined with stable or farm-yard manure. But it cannot be expected that all this can be effected, to any considerable extent, in one year—if done in the regular course of cultivation it will be sufficient. That is, give a dressing of marsh one year, and one of shells the next time it is cultivated—or the reverse. My experience and observation lead me to recommend that the shells be dropped on every fourth or fifth *land*, or ridge, as near to each other as convenient to the carter: that is —when his team arrives within a few feet of the load just deposited let him tilt his cart. The same process to be observed in dropping the sea-ware. This valuable article acts well on all crops, and at all seasons—the sooner it is turned in the better: it loses much of its virtue by exposure—but it is a common practice to drop it during the summer on land intended for corn next year, where it lies until it is time to *list*. It is excellent for fallow. When thrown on shore by a favourable wind the most pressing jobs are postponed until it is secured, either by taking it to the field where wanted or by heaping it a few feet above high water mark, to prevent its being carried off by the ebb tides. It is useless, and double labour, to put it in large heaps—if heaped in the field, in large bulks, nothing will grow on the spot it occupied for several years:—indeed a single cart load, if it lies a few months, deposits rather too much salt—to obviate this one of my neighbours distributes it in half loads. No instance is known of its introducing wire-grass or any other pest.

Marsh mud and the heads of coves are now extensively used. Unexpected quantities and qualities of manure are frequently found:—after penetrating through a stratum of rich salted alluvial soil, well rotted marsh, emitting a strong stench, is often found. These *compost beds*, from *six to ten feet* deep, of the best *materials* ready *to our hands*, are invaluable. Some of our landholders, who let land on shares, are so sensible of the value of these resources that they furnish a cart, team and carter, (the tenant finding food,) to be employed on them exclusively all the year. Marsh can be got out in the dead of winter—it makes an excellent dressing for the farm-yard. Oyster-shells, collected from bars by men who make a business of it, in large quantities, are sold at 1½ to three cents per bushel to farmers, who burn them in kilns made of pine logs. The lime, and half burnt shells, are spread with shovels from the cart tail, at the rate of 150 to 200 bushels per acre, just before or after planting corn—or before seeding wheat.

Indian banks should be dug with grubbing hoes, or (if the ground will admit) ploughed up, and *shovels* used in loading. Iron pronged forks suit the sea-weed, *spades* and shovels the heads of coves and marshes. From two to five carts should be run, so that the hands employed to load may have constant work. *Single* teams are preferred.

I am no *essayist;* but hope something useful may be found in the above. Cornplanter.

(From the Library of Useful Knowledge.)

FARM REPORTS, No. II.

KYLE IN AYRSHIRE.

INTRODUCTION.

There is no way in which a farmer may more advantageously improve himself in his art, than by inspecting the practice of other districts and of other countries, but as the opportunity of inspection cannot always be commanded, the want may be supplied by obtaining circumstantial descriptions. To derive the full benefit from either source requires caution and the power of discrimination; for in no art do so many circumstances combine in the production of the results as in agriculture, and a difficulty generally arises in determining to what cause a particular effect is mainly to be assigned. Individual sagacity without scientific knowledge may go a great way in solving this difficulty, and in determining to what extent an old course may safely be altered, or a new one introduced, or why failure or success has ensued. We find that, in a certain place, the accumulated sagacity of ages has, without being able to ascribe any general principle for the effect produced, established a practice suitable upon the whole to the circumstances of the situation—but if the perfecting the art in every situation be the object, the necessity of scientific knowledge cannot be too strongly impressed.

Theoretical and practical farmers have been sometimes contrasted to the discredit of the former. A mere practical farmer is a man who knows how to manage to good advantage a certain piece of ground. A mere theoretical farmer is a man who understands the principles on which the operations of agriculture depend, without having acquired dexterity in their application. The one may be less successful than the other at first, but place them in a new situation, or let them have to determine on the introduction of a new practice, there can be little doubt which of them, supposing them equal in intellectual endowments, will be most likely to succeed—or in the description of the farm to be here given, which will be most likely to detect what part of the system is erroneous, and what correct. Experiments in agriculture are carried on under many disadvantages. We have it not in our power to vary at will the circumstances in which they are tried, or to repeat an experiment in precisely similar circumstances, and thus we may be led to ascribe to a cause what does not justly belong to it. Fortunately, however, the results in agriculture have their foundation in sciences, in which we have sufficient control over circumstances, and in which the facts can be generalized, and principles established with the completest certainty. Chemistry and vegetable physiology afford the only sure means by which the art of agriculture can be brought to perfection, and Davy and Sinclair have done more towards its advancement, than might have been accomplished in centuries by practice unguided by science. Much has been done where the knowledge of general principles was wanting, but their use is to diffuse the capacity for improvement, to make its progress more certain and more rapid, and to prevent the adoption of error. Some person may, for instance, have raised an excellent crop after dressing his land with salt, and thousands of bushels are immediately applied as a manure, but no man who understood chemistry and vegetable physiology would ever have imagined that land could be made more fertile by such means.

There is every reason to expect that these sciences will soon be more generally understood. In towns, the means of acquiring the knowledge of physics is supplied to mechanics; and all other classes will be forced to keep pace with them. It seems absurd that any human being who can be kept at school for eight or ten years of his life, should arrive at the end of his education, in ignorance of the laws by which the events in nature around him take place. In relation to the aptitude of the human mind, this branch of knowledge might well be taught prior to that which is denoted literature, at least the one should accompany the other, and it is not difficult to conceive plans by which it might form a part of the course of instruction in even every country school, without much additional demand of time or of expense. The usefulness of the knowledge here recommended is very obvious, and it is unnecessary to insist on the amount to which it would add to the sources of pleasure to all farmers, whether proprietors or tenants. Every landowner living in the country, is to some extent a farmer, or a planter, or a gardener: there is not an object around him that can occupy his attention for a moment, in which his interest would not be much increased by the understanding of physical science, and yet what class in society is so generally unprovided with this fond of intellectual recreation and resource against the tedium of idleness?

DESCRIPTION OF THE FARM.

This farm, which lies in the district of Kyle in Ayrshire, contains 250 arable acres, imperial measurement. Its offices are centrical. Its inclosures, which are rather unequal in size, are remarkably well accommodated with good roads. It is above seven miles distant from any place where manure can be got in considerable quantity, and two acres and a half are the most that have ever in one year been dunged from extraneous sources. In the above measurement are included five acres of rich sandy loam on an open subsoil, about four acres of mossy or peaty ground, and thirteen or fourteen acres dispersed in different places, of a deep alluvial clay soil. Generally speaking, however, the soil is poor, and rather tenacious, and, though very various in depth, may be stated at fourteen or fifteen inches as an average. The subsoil contains nothing noxious to vegetation, but is quite impervious to water. As in Ayrshire much rain falls through all the seasons of the year, the conducting of agricultural operations is, in these circumstances, extremely precarious and difficult. The ordinary farm establishment consists of a superintending servant, who directs the details and also engages in the farm work, two ploughmen, and two pairs of horses, two labourers, and a dairy-maid, besides a few female labourers occasionally weeding in spring and summer. By this force also a good deal of work not strictly connected with cultivation has been done. When the farm was taken possession of ten years ago, it was in a very exhausted condition. For seven years previously, the rotation had been either oats—oats—fallow—wheat—beans—oats—hay—followed by a few years pasture—manure applied to the fallow, but far too little in proportion to the extent and condition of the land; or oats—oats, without dung—hay—pasture for some years. Thus the land was in the one case too much exhausted before the fallow, and when laid down in grass, was in a poorer state than when broken up.

GENERAL SYSTEM OF MANAGEMENT.

The object since has been improvement, with a view to which, it has been endeavoured to get the fields laid down in pasture, in as good a state as the means of doing so, without too great a sacrifice of immediate return, would permit; and the rotations, adopted according as the land was more or less impoverished, have been oats—fallow with dung—wheat—hay—pasture for seven or eight years—or oats—fallow with dung—wheat—red clover and rye grass—oats—peas—oats with dung—pasture to be continued for at least four years. With respect to the first, none of the land thus laid down has yet been broken up, but it has returned as much in pasture as it could probably have been let for in its previous state under any system of management, and will, it is expected, yield proportionally well when brought again under tillage. With respect to the second, the crops, except the first one of oats, have been all good, and the land appears to be left in a good state to improve by resting. There are, however, two objections to it—the difficulty of getting a sufficiency of manure, and the difficulty—rather the impossibility, soil and climate considered, of keeping the land to the last from becoming foul. Probably a saving of manure might be effected with equal results, by applying the dung to the peas crop. A luxuriant pulse crop of itself fertilizes the soil. It draws much of its nourishment from the atmosphere; it protects the decomposable matter already in the soil, from exhaustion by the sun and weather, and adds to it by the decay of the lower part of its leaves under cover, and of the innumerable insects that infest them. In the only instance in which this mode of applying the manure was tried here, the crop was too luxuriant to be productive in grain, but the succeeding white crop was very large. A balance of future profit is sometimes sacrificed to immediate gain, and it is believed that it would be a considerable improvement on the system, were this pulse crop raised with a view solely to fodder.

Such generally has been the mode adopted for the improvement of this farm. Were it once all gone over, perhaps a change of system might be advisable, a more uniform system decidedly so.

Before entering on details, the management of three inclosures of the better land formerly mentioned may be adverted to, as they have afforded a considerable means of ameliorating the rest. For the five acres of sandy loam the rotation has been, oats—turnips—potatoes—wheat or red-clover; the crops always large. One inclosure of five acres of deep clayey loam, after fallow and wheat, was sown with rye-grass, cocksfoot, timothy, and white clover; and besides these, there is now in its herbage abundance of holcus lanat., several varieties of fiorin, poa pratensis, with some of the other indigenous grasses. It was drained, but not sufficiently, and a part of it is infested with ranunculus repens, called crowfoot or butter-cups, which, in hay, cattle will not touch. It has been cut four years successively in hay, yielding nearly six tons and a half annually, and has afterwards been pastured till December with sheep. By proper management it might have been rendered a still more valuable appendage to a farm on which green crops can never be extensively or successfully raised. It ought to be thoroughly drained, and preparatory to being laid down in grass would require to be pared and burned. From a trial made on about one-fourth of it, an occasional top-dressing of dung would amply remunerate. The other inclosure containing also five acres, is a very rich alluvial clay, with a considerable, perhaps too large, an admixture of vegetable matter. At no great distance of time it was a swamp. In the centre of it there is a hollow filled up with moss, and springy, which has been drained, and the clay from the bottom of the drain and other sources laid to the depth of at least two inches on the moss, and it is now equally productive as the rest of the field. It was originally intended that this also should be converted into a permanent meadow, but the bulk of its crops has afforded a temptation to at least defer that object. When broken up, it was one mass of couch, the roots chiefly of a species of agrostis. It was fallowed in a very favourable season, got a moderate dressing of dung, and nine hundred and sixty Winchester bushels of lime, and was sown with wheat, drilled by an operation of the plough known under the name of "ribbing." Had the succeeding season not been remarkably dry, the wheat, from its strength, would have been lost. After being kept in stack for eleven months, the produce was two hundred and fifty-two bushels, and the produce in straw was comparatively greater than that in grain. Oats, hay, oats, potatoes, and turnips, have succeeded. The hay was bad; the field, should it ever be converted to permanent meadow, ought to be pared and burned, to extirpate the ranunculus. The oats were very bulky, the produce in grain of the two years together, four hundred and eighty bushels. This season the field is again in wheat, still a very bulky crop; but that after turnips is thin; and, considering this and the wetness and coldness of the season, the produce in grain cannot be estimated above a hundred and sixty bushels. Viewed merely as a source of manure for the rest of the farm, these crops have certainly equalled what would have been drawn from the field, had it been laid down, as first intended, in the best state as a meadow.

MANAGEMENT OF THE ROTATION OF CROPS.

1st. *Oats after Pasture.*—Were it not necessary to take advantage of the first occasion of the land being in a proper state for harrowing, lest another may not in time occur, oats should not be sown here till the middle of April. Before that period vegetation is so languid, that the plants are unable to resist the depredation of grubs; and if the land be poor, they never recover. The earlier and richer varieties do not succeed, and it is a material objection to them, that they are all deficient in straw; and on a farm dependent on the cattle-yard for manure, and on which green crops can be raised but to a small extent, this is a material objection.

2nd. *Fallow—Naked*—It was once tried to fallow a very poor field without previously taking from it a crop of oats, but the breaking down of the turf sufficiently was found impracticable—the season, however, was remarkably wet and unfavourable. Five ploughings, with the usual assistance of the roller and harrows, are the most that have been found requisite to bring the ground into a sufficient state of cleanness and tilth for sowing. The ploughings should all be executed when the ground is in a dry state. The object is to clean, to pulverize and mix, and to render friable. One wet ploughing may undo the good effects of all the preceding operations, and had much better be omitted altogether. When lime is used, it is applied after the second ploughing, the dung is covered in with the seed farrow. There is no standard by which it can be said, with any degree of accuracy, what quantity of manure in the shape of farm yard dung is applied. Carts are variously filled, and even when estimated by weight or measure, one is still in ignorance of the intrinsic value of the material. Where recent dung is used, if the land be very dry and loose, it is extremely difficult, in ploughing it down with the seed furrow, to bury it sufficiently, and when not well covered, a great waste is occasioned, and an obstruction offered in harrowing to sufficiently burying the seed. Ridges of fifteen feet width were at first, for many reasons, adopted; they are convenient in sowing and reaping, and when twice gathered, they afford, without rendering the furrows too bare, a quick escape for the water falling on the surface. When, however, the surface of the field has a considerable inclination, as is mostly the case here, twelve feet ridges are preferred. With these there is a less accumulation of water in each furrow, and the soil less washed away, by the winter rains.

Fallow-green Crop.—A small portion of the most suitable soil of the fallow is often allotted to turnips and potatoes, both planted in drills with dung. The latter are almost always an inferior crop in quantity. If the season be dry and warm, very good turnips may be raised on this soil; but as such a season cannot be depended on, were it not for the sake of advancing a few young cattle, they would not be sown. To cart them off in winter is ruinous for the land. For the last two years they have been stored towards the end of October, and with probably less loss than might have been expected, had they remained on the field. They are laid down on a dry place in long heaps about five feet wide, and moderately covered with straw. They should be protected from rain and frost, and at the same time the air not excluded from them. Swedes are the turnips which are most desirable to plant, but they do not succeed if not sown in the month of May. It is rare that the land can be got prepared so early, and therefore the yellow bullock is substituted, a root very little inferior, if to be used before the end of April. The potatoes are raised principally for the use of the servants and family. In winter, and when there is no whey, the pigs are fed with them boiled, and in spring, when the cows begin to calve, they get a few bolls of them. The turnips are almost exclusively given to the young cattle.

3rd. *Wheat.*—Should be sown early in September. In proportion as it is sown later, it seems to be deficient in produce. One season a little was sown on the 13th August, and succeeded equally with the rest of the field; the spring, however, was fully more backward than springs are generally in this country. The white wheat is the kind that has always been sown, though perhaps not the most suitable. Three bushels an acre is enough; if sown later, or, when the land is very wet, a little more is required. It is washed in stale urine, and dried with slaked lime before being deposited in the field. It has, however, been repeatedly tried without washing, and in neither way has it ever been affected in the slightest degree with any disease. Sixteen and a half acres is the average extent sown annually since the farm was taken possession of. The average produce for each year has been as low as seventeen bushels per acre, and as high as thirty-four; and the average produce of all the years is twenty-five bushels per acre or thirty-one and a quarter per acre Scots.

4th. *Clover.*—Red clover, with rye grass, generally succeeds well here. It affords the principal means of feeding the horses and calves in the house all summer and autumn. It is sown among the wheat most commonly in the month of March, and four pounds of clover-seed has always been found sufficient for an acre. A great part of the first cutting is converted into hay, and made early for the sake of the after-crop of clover.

5th. *Oats after Clover.*—If the crop of clover be good, the succeeding oat-crop never fails.

6th. *Peas.*—The common grey is the kind used, sown broad-cast at the rate of about four bushels to the acre. Peas are preferred to beans, because they do not require to be so early sown; and they are ready to be cut sooner in the autumn; they are besides more easily secured. It is desirable that they should be drilled, for the sake of getting the ground kept free from weeds, though in many seasons the horse-hoeing of them would be impracticable.

7th. *Oats after Peas with Dung.*—If the pea crop has been luxuriant, the oats that follow are so also. The ground gets two ploughings, by the last of which the dung is covered in. Three ploughings would be better, if they could be overtaken, but it is seldom possible to get two performed with the ground in the requisite state in point of dryness.

8th. *Hay.*—It is allowed to lie in the swath till ready to rake, and to be put up into small cocks, which in fine weather may be the second day after cutting. In these it remains for a few days more, and is then put into small ricks of from fifty to eighty stones of twenty-four pounds, and when sufficiently dry, is carried home and put up together in a permanent rick. In this way it is as little as possible exposed to the influence of either good or bad weather.

9th. *Pasture.*—The land here will not stand constant cropping, or continue productive, without considerable intervals of rest under pasture. If the pasture is to follow the wheat crop, the grass seeds are sown in spring, and an occasion ought to be taken, if it can be got, when the wheat may be well harrowed and rolled. The grasses, however, are found to succeed well without harrowing, if sown early. Upon half an acre it was once tried to sow the grass seeds with the wheat in autumn. The wheat crop was remarkably injured by this mode of proceeding, but the grasses seemed proportionally benefitted, and probably the land was not more exhausted by the grasses ripening their seed, than it would have been by a full wheat crop. It has been recommended to sow grass without any grain crop along with it. In this climate and soil, it is impossible to bring the land into the requisite state of tilth and cleanness, without a fallow in the middle of summer; and, judging from the above experiment, it might not be unadvisable to sow wheat to the extent of half the usual quantity along with the grasses. The young grass plants would be materially protected by the wheat during the winter, and the whole might be either pastured in the ensuing spring, or made into hay at a later period.

If the pasture is to follow the oat crop with dung, when the oats have been sown and the land harrowed, the grass seeds are sown and the field rolled. If the land be not fine enough, it is rolled and harrowed previously to sowing the grass seeds, and then rolled again. The sowing down is an important operation, for under good pasture land improves much, but if the pasture be poor, it improves not at all.

The only grass sown in this district is perennial rye grass, the very worst for pasture, as cattle reject its shot stalks, which impoverish the land by ripening much seed. It would be a great improvement to sow along with it some of the grasses natural to the soil. Many of those that are the most abundant produce a great deal of seed, and every farmer might at little cost supply himself with them from his farm. By this means a better turf would be had from the commencement, while, by the ordinary process, a considerable time is lost, and the ground in a great measure occupied by more worthless plants, before these grasses make their appearance. Unless the land be in good condition, and unless there be shelter, it is needless to sow the more valuable species of grasses. Those sown on this farm besides rye grass, the clovers, and rib grass (plantago media,) are timothy, and cocksfoot, of which the seeds are raised on the farm. The rough stalked *poa* (poa trivialis) has also been sown, and increased much the bulk of the crop of hay, but it immediately becomes dwarfish. Besides requiring shelter like the cocksfoot, it must have a deep soil. It produces seed abundantly. The timothy seems to be a very hardy plant and very permanent, and no grass produces more seed. It is a great omission not to raise and sow the varieties of the fiorin also, for though fiorin immediately rises spontaneously, it is one of the best pasture grasses that are here indigenous. White clover is luxuriant for two or three years, but after that it, generally speaking, disappears. Sheep are fond of rib grass, and it puts out its foliage very early in spring, but cattle seem little disposed to eat it, and as it is always shot before they can be admitted to pasture it is rather injurious where they are the only stock.

From the wetness of the climate and the large proportion of clay in the soil, it is not in general advisable to pasture grass land the first year: if done, it must at least be with sheep alone. In a dry season, there is no doubt that to stock early with sheep is most conducive to the fertility of the pasture, and the future improvement of the land, but, upon the whole, the safest plan for the first year, is to use the scythe. In such a season as the present (summer 1830,) cattle do immense injury on pasture of even two or three years standing, and care is taken not to admit them, if possible, to fields recently laid down, except in dry weather. A considerable number of dairy cattle are kept on this farm, but for these and other reasons, it is thought that sheep ought to be its prevailing stock. From every consideration overstocking is avoided. It is a most shortsighted error too commonly fallen into. If eaten bare on such land as this in the early part of the season, the pasture never again recovers. After the commencement of autumn the grass grows very little, and if there be not then a full bite on the fields, the cattle, especially milch cows, will go to the fodder in bad condition; it will be impossible to keep them in health through the winter, and when again turned out to pasture, a great loss will be sustained before they come into a productive state. Under heavy stocking too, the pasture on land so ungenial never improves, and the soil consequently receives no amelioration.

(To be continued.)

(From the Georgia Athenian)

WHITE WHEAT.

Jackson, County, July 12, 1831.

Mr. Shaw,—*Sir:* As you were good enough sometime ago to notice in your paper my twelve pound turnips, you may if you please, notice my equally productive wheat. I sowed on the 15th of October last, three quarts of a beautiful white wheat, which has been very recently introduced into our state, and on the 15th of June following, I cut it, and have since thrashed, cleaned, and measured *seventeen and a half bushels* of its net product; one bushel of which, weighed 68 pounds. From this experiment, I have not the smallest doubt but that I can cause the same kind of wheat to yield ten bushels per quart. Is this not enough, sir, to convince every planter that he cultivates too much land.

Yours, &c. Joseph J. Singleton.

HORTICULTURE.

(From the Southern Agriculturist.)

Proceedings of the Horticultural Society of Charleston.

The anniversary meeting of this Society was held on the 13th of July. Our readers are aware, from our previous notices, that this Society is but of recent origin, in fact, it can scarcely be said to be more than organized even now, yet from every indication it promises to be most popular and useful. Notwithstanding the weather was very inclement, there was a full attendance of the members and great punctuality observed, which evinced a lively interest in the proceedings of the Society. On the tables were placed a number of choice flowers and plants, fruits and rage vegetables. Our limits will not permit us to enter into minute details of these, nor can we pass them entirely by.

Among the flowers sent by Mrs. Cochran, we noticed two species of Dahlias, Caprifolium flavum and semperverans, Pinks, of different kinds, Hydrangeas, Cassia, &c. Among those furnished by Mrs. Wm. Johnson—Centaurea, two species of Canna, Salvia coccinea, Lathyrus, Gardenia, and several others. From Mrs. Davis—Phlox, Lagerstrœmia, Hibiscus, Tiger lilly, &c. From Mrs. Backman and Miss Martin, the double flowering, Roman, Catelonian and Nutmeg Myrtles, Amaryllis gigantea, Lillium tigrinum, Euphorbia variegata, Dahlias, Oleanders, Clematis crispa, Spigelia, Lawsonia inermis or henna of the East, Rosa oderata, and many others. Mr. Noisette sent a small collection from his nursery, among which were Lythrum, Clethra alnifolia, Hæmanthus puniceus, &c. Mr. J. Michel, also presented some flowers, White Chasselas and White Muscat Grapes and some Apples, borne on trees not more than four feet high. The new vegetables consisted of the Kohl Rabi, Silver or Sea-kale Beet, Yellow Mangold Wurzel and Tree Onions. A very large Beet was sent to the Society by Mr. J. T. W. Holmes. The season had been extremely unpropitious, and many of our finest flowers, fruits, and vegetables were destroyed by the immense quantities of rain which had fallen. We will now proceed to give an abstract of the proceedings of the Society.

At 5 o'clock, P. M. the meeting was called to order by the President, and the election of officers gone into. The following gentlemen were re-elected to serve for the ensuing year, viz.

Elias Horry, *President,*
Dr. Jos. Johnson, *Vice-Pres.*
Dr. H. R. Frost, *Cor. Sec.*
J. D. Legare, *Rec. Sec.*
Aug. Winthrop, *Treas.*

Standing Committee—James Cuthbert, Rev. Mr. Backman, Judge William Johnson, Robert Hume, Dr. Isaac A. Johnson, Dr. James Moultrie, jun. Joel R. Poinsett, and the officers of the Society, *ex-officio.*

A large number of applicants were admitted members. Reports from the several Committees were made. The Chairman of the Committee on Fruits made a verbal report:—the season for fruit has but just commenced, and he will not make a written one before the close of it. The Chairman of the Committee on Flowers, made the following:

"The Committee of the Horticultural Society on Flowers respectfully report, that they have endeavoured to discharge the duties assigned them by the Society, in examining such specimens of flowers as were sent them, and in visiting the gardens of such persons as expressed a desire of exhibiting to the Committee their choicest flowers. In consequence of our very unfavourable season (the flowers having been retarded by an unusually cold spring, succeeded by drought, and recently by heavy rains) the gardens did not present as flourishing an appearance as in former seasons; still, however, the Committee are happy to state, that under all the disadvantages of the season, a number of very choice and beautiful flowers were exhibited to them. There are no doubt a number of fine gardens in the city and its suburbs which the Committee had not an opportunity of visiting; several persons who have for many years cultivated flowers and ornamental shrubs were not sufficiently acquainted with the rules of the Horticultural Society, to be induced to invite the Committee to examine their gardens, although they have evinced every disposition to contribute all in their power to cultivate and improve the taste for ornamental gardening, and the Committee have no doubt but that in proportion as the objects of this Society become better known, a greater number of individuals will be found who will cheerfully co-operate in favouring its views and advancing its interests.

"The individuals of whom, in the opinion of the Committee, honourable mention ought to be made and who are entitled to such rewards as the Society may decide on, are the following:

"Mr. James Nicholson, the best bed of Hyacinths.

"Mrs. (William) Johnson, the finest Tulips.

"Mrs. Eliza C. Cochran, the finest show of Roses the Committee ever inspected; she having had 47 kinds in bloom during the present season.

"Mrs. Eliza C. Cochrao, the finest Amaryllises.

"Mrs. Johnson and Mrs. Cochran, also both cultivated a number of very beautiful Carnations.

"Some of the shrubs and bulbs, however, mentioned above, were not in bloom until after the month of May, when premiums were to have been awarded, and as several of our finest flowers will not be in season for some weeks to come, it is respectfully suggested that the field be still left open for competition until the end of the season of flowers.

"In coming to a conclusion, your Committee cannot withhold an expression of their belief that under the incitement to competition which this Society is calculated to produce, a taste for the beauties of Flora will be more cultivated. Our climate is peculiarly adapted to most of the finest flowers. Nearly all the plants of China and the Cape of Good Hope, may be cultivated without difficulty in our open gardens, and from our own woods and fields a selection may be made of trees, shrubs and flowers that form the ornament and pride of the gardens of Europe and of the northern states of our own country. Most of the finest Magnolias, as well as the Liriodendron Tolipifera or Tulip Tree, Franklinea, Pinckneya, Vaccinium Arborea, and some of the most splendid flowering trees in the world are natives of our state, and may be cultivated without difficulty. The *Calicanthus Floridus* (Sweet Scented Shrub,) the *Chionanthus* (Fringe Tree) the *Gelseminum* (Yellow Jessamine,) several species of the beautiful *Azelias* (Bush Honey Suckle) the *Lobelia Cardinalis* (Cardinal flower) the *Liatris elegans*, the *Gerardias*, and a large number of very beautiful plants are found flourishing in their native woods within a few miles of our city; and from these, without much trouble or expense, a collection might be made which would render our gardens and public walks as ornamental as those of any country. In an attention to these employments healthful exercise would be produced—a taste for the delightful study of botany would become more generally diffused, a recreation afforded for many a leisure hour, and an additional charm be thrown around our lives.

"All of which is respectfully submitted by the Committee."

Among the fruits presented was a branch of the paper mulberry (*Broussonetia papyrifera*) with ripe fruit on, sent by Mr. Noisette. On observing which, the Corresponding Secretary, Dr. H. R. Frost, remarked, that Mr. Noisette had made use of the males which were quite common in our streets to inoculate the female plants on, and had been very successful.

Mr. J. D. Legare, made a few remarks on the several specimens of vegetables, which he had sent to the Society. He observed that the Kohl Rabi, although quite common in Europe, was but little, if at all cultivated among us, they had been this year by him for the first time, and he was satisfied that they would prove an acquisition to our table, the flavour resembled the inner and more delicate part of the head of the cabbage, or rather the white stock enclosed by the head, perhaps a little more delicate; he understood that they were properly a winter vegetable; the seeds of the specimens which were on the table were sown in March, and they had to contend with excessive drought whilst young, and latterly with heavy falls of rain, which they appeared to withstand fully as well, perhaps, better than any of the cabbage tribe; some of them had reached the size of near 5 inches diameter, which was large enough for any purpose—he had reserved some of the seeds and he hoped to be able to state hereafter, to what size and perfection they would attain during winter. One other fact he would state relative to them, and that was that they are as easily transplanted as the cabbage, taking readily and growing to a good size. Some of the best specimens on the table were from those transplanted.

The Tree Onion he strongly recommended to the attention of the society. It possessed many properties which would make it valuable to us. Among these, was its producing the small bulb instead of seed, which, could this onion be successfully introduced, (of which he had now no doubt although many had failed in attempting its culture) would save us the amount yearly spent for onion sets imported from the North, and would moreover enable us to plant them out earlier and of course have them earlier for our table. Another good quality was, that the onion which produced seed or sets was not spoiled by this, the stalk growing at the side instead of through the centre of the bulb, and the same onion could either be used for the table after it had produced seeds, or be again planted for seed—they were as early as the common varieties. Respecting the Yellow Mangold Wurzel and Sea-kale Beet, he, as yet, could state but little, the first was sweet but not more so than the common beet, the latter resembled what had been sent him as the Swiss Chard.

The President presented a melon of the Cantalupe variety, he observed that the last year they were remarkably fine, but he feared this year there would be a total failure owing to the great quantity of rain which had fallen. Dr. Frost stated that some new varieties of melons had been introduced from Italy by Dr. Holbrook among which was the Velvet Melon, that they were then growing in a garden in the city and promised to be very fine. J. D. Legare remarked, that it was certainly preferable to attempt the introduction of melons from the south of Europe or other warm climates. It appeared to him from all the experiments he had made (and they had been both on fruits and vegetables) that all plants coming from a northern to a southern climate required as much to be climatized, as those which were brought from a southern to a northern one. In an article he had written for the Agriculturist, he had stated some experiments he had made on melons, the seeds of which were imported from England, the result was, that although they produced many vines and were at first luxuriant in their growth, yet they did not mature a single fruit. He was led to believe from that circumstance, connected with others with which he was acquainted, that plants raised from seeds grown in a northern climate, would not do well the first year in a southern one, although originally from a warm climate. The opinion which he then advanced, had been confirmed by this year's experience. He had imported from England seeds of some of the finest Persian melons, introduced there from Persia, by the Horticultural Society. Although slightly forced in the first instance, to get them to fruit early, (before our hot weather became oppressive,) yet he had scarcely succeeded in obtaining a single fruit from each vine, some had produced none, and those which he had obtained were small, not well matured, and of very inferior flavour, not resembling the descriptions published in the Transactions of the London Horticultural Society. Cucumbers from England also did not produce fruit as well the first year as afterwards—Mr. P. S. H. Lee remarked, that he had growing in his garden a variety given to him many years ago as the Smyrna melon, the seeds had lain by him for five years, and were cultivated after this lapse of time with success. The fruit was large, and of oval form, the cavity left for the seeds was very small, about 2 inches diameter, whilst the flesh was 3 inches in depth. The flavour was very fine. The wet weather had nearly destroyed the whole of them, and he had not been able to present a specimen as he intended. The seeds, would, however, be carefully saved and distributed among the members. The President related an experiment he had been induced to try, to save his melons from rotting, which sometimes occurs from their contact with wet earth. He placed a parcel of them on tiles, whilst others were left on the ground. When they were mature, to his surprise he found, that those which had had tiles placed under them, were perfectly tasteless, whilst those on the ground retained their flavour.* Mr. J. Michel observed, that having some very fine melons, he was very desirous of saving them, and was advised by a neighbour to place under each a piece of pine bark; he did so, and succeeded perfectly, not one rotting, they moreover, retained their fine flavour. Whilst up he would observe that his experience confirmed what had been stated by Mr. Legare, relative to the effect of a warm climate on melons brought from a more northerly one. He had several times attempted to introduce them from France, but had almost always failed.

A paper "On the hastening of the maturity of figs, by the application of oil," by the secretary, J. D. Legare, was then read. He stated in detail the experiments he had made. The conclusions which he drew from them, were, 1st, that figs may be matured 14 days earlier by the application of oil to their flower ends than when left to ripen in the natural way on the tree. 2. That merely touching the apertures of the flower end was of more service than oiling the whole fruit or even the whole flower end. 3. That the figs should be *at least* 1 inch diameter, but 1½ inch was preferable, all below these sizes being injured by the application of oil. 4. That all the fruit touched with oil would either mature or fall off in the course of 14 days from its application—finally, that all of the fruit on a tree ought not to be oiled at the same time, but only those which are of proper size.* Major Lee and the Rev. Mr. Bachman respectively stated that from the success which had attended Mr. Legare's first experiments, they were induced to try the effect of oil on the fruit of their trees, the results were in accordance with those stated by him.

The process of caprification, (practised in the Levant,) as stated by some ancient author, was given by the president. He understood that it had been revived by a late traveller, (Bidgelow;) the process stated was the same. It consisted in taking branches of the wild fig, and hanging them among the branches of the cultivated varieties—from these issued innumerable insects, which punctured the fruit, and deposited their eggs there. This occasioned the fruit to swell and mature, which they would not do in such quantities were this neglected. He then entered into an analysis of the word caprification, in which he was followed by Major Lee.

Dr. Isaac A. Johnson observed, that he was induced to make some remarks relative to the culture of the fig tree, in consequence of the observations offered by the president respecting that plant, showing that the fig tree of the Archipelago (*ficus carica*) is matured much earlier and rendered more prolific in consequence of the peasants, who make a business of it, bringing branches of the wild fig tree in the spring, which they spread over those of the cultivated tree. This process is called caprification, and is well described by Tournefort. We are aware that the fig belongs to the class *diœcea*, consequently we must expect to find the polliniferous or staminate flowers upon one individual, and the pistillate on the other; and, as the fertilization of the fruit depends upon the timely application of the nutricious polen, the fruit must, without it, either fall off immatured or be of diminished size. This is obviated by the process adopted by those cultivators, and is effected in a singular manner, by a small insect, of the genus *cyrips*, which is continually flitting from fig to fig, covered with this polen, which she has robbed from the anthers of the wild tree, while descending into its cavity, (within which these flowers are curiously arranged,) either in search of food, or, as is supposed, to conceal her eggs, and deposits upon the stigmas of the pistillate flower.—Much judgment and skill no doubt are necessary in the adaptation of this plan.

From what he had stated it appears evident that the fertilization of the fig depends upon the application of the polen, and not, as has been supposed, upon the punctures (which was suggested) made through the integument of the fruit.

He also took that opportunity to remark, that he had observed that the leaf, or first crop fig, contained *stamens* and *pistils*, and that the second crop from the same tree bore *pistillate florets* only, and suggested that we should follow up the inquiry, feeling confident, that, by a proper care of the leaf fig, we should be able to obtain plants from them, and probably of their original character. He made these observations with the leamon fig, as it is called.

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* This tends to show that, however, advantageous this process may be in a cool moist climate, it will not in a warm one. Bark, wood, or any slow conductor of heat will answer perhaps better, the object is to keep the fruit from being constantly in contact with moisture.—*Ed. So. Agr.*

* This paper will hereafter be published in the Agriculturist.

He had had an opportunity of observing the good effects of Mr. Legare's method of applying the oil to obtain the early maturation of the fig, and thought very highly of it. He had little doubt but that the same application may be made to advantage upon other fruit, whose calex is superior, as it has the effect of not only preventing the escape of the perspirable fluid, and thus facilitating their maturation, but also excludes insects; and, by bringing them forward early, may be plucked before the insect makes its appearance.

Judge Johnson next followed:—

"If it be true that the want of the wild fig tree among us is the only cause that prevents our curing figs, then I flatter myself that, partially at least, the difficulty has been removed by our recent experiments in forcing the fig, by means of what I will take the liberty of calling oleagenation. Caprification is universally treated as the means resorted to for forcing the fig, so as to make a whole tree ripen together, or at intervals suiting the convenience of gathering and curing them. Now, oleagenation distinctly subserves the same purposes. The question will have to be decided whether the profit will pay for the labor. Great use appears to have been made of the fig in ancient agriculture, both ripe and cured, as we may judge from the geoponic writers; and, if we may judge from a passage in Cato, it constituted a part of the provision of their slaves. Certain it is that it may be turned to excellent account in contributing to the comforts of our slaves; it is so easily propagated, so safe in point of health, and in certainty of production exceeds all other trees; I think I might add in quantity of fruit also, and even in durability. Many medical uses also were made both of the bark and fruit; the milk was a substitute for cantharides, and the leaves afforded a black dye.

"But, on the subject of curing figs, I am inclined to think that the moisture of our atmosphere, and, at present, the superior productiveness of many articles of agriculture, are insuperable obstacles. I have succeeded perfectly in curing figs, by placing them under glasses exposed to the sun. It was the large brown kind on which I made the experiment. The modern mode of curing them is, I find, to place them in single layers in shallow baskets, which at night and on the approach of rain, are piled one upon another, and covered on top by an empty basket. This is an improvement on the ancient mode, which was to distribute them on scaffolds, made of poles or laths, with a preparation for covering them, by means of mats, so arranged as to cover them with ease and expedition—all making the exclusion of moisture a *sine qua non.*

"On the subject of caprifications I would remark, that the practice is one of high antiquity. The word, it is obvious, is of Latin origin; but there is reason to believe it was practised by the Greeks, for we find the word caprification in that language, and very old authority for it. The Latin husbandry we know was made up, like their mythology, from the conquered countries. Carthage, Gaul and Greece contributed to it; the former largely.[*]

"The old book to which the president alluded was probably Tournefort; and the very serious and scientific attention bestowed by this author on the subject, leaves not a doubt in his time it was the practice in most of the Greek islands, where he witnessed and studied it. The rationale which he gives of it differs from that of Pliny, and has a strong support in analogy. There are a thousand instances in which the wound of an insect produces precocious ripeness. Nature, which intended that fruit for that insect's subsistence, has given it the instinct and faculty of hastening that state which is necessary to the end proposed. The same effect is seen in a thousand instances, in which a vegetable worm is necessary to animal procreation, of which I would humbly submit the query, whether all the fungi are not specimens. Are not living insects always found in them in an advanced state of their existence? Always, I believe, in the edible mushroom.

"I would here call the attention of the society to one proof of the identity of the *modus operandi,* or resemblance between effects of the puncture of an insect and the application of the oil to the fig. Uniformly the oil produces something like a paralysis at the point at which we apply it. All other parts are swelled, juicy and well flavoured; but the resemblance at that point is to a scabbed or inert surface. A wound is produced by the insect, and death is the effect of the oil. The part is dry, closed, withered and tasteless. I could almost be tempted to draw an analogy between this operation and that so cruelly practised upon animals to produce a morbid enlargement of the more delicate parts—the effect of fever and morbid secretion, soon followed, as in the fig, by dissolution.

"Tournefort's exposé of the rationalé of caprification is, that the wild fig propagates and preserves through the winter the insect, which, when brought in its boughs and suspended on the orchard-figs in early spring, punctures and matures it. It has been now suggested by one of our members, whose researches in botany are known to be respectable, that the insect is made the porter of the farina of the male to the female fig, and thus it operates to hasten maturity. The inquiry is a curious one, and it behoves us to follow it out.

"The process of oleagination is not new, although comparatively so to us. It is said to have been long practised in the gardens of Paris, and along with it another practice, which illustrates and seems to support the idea that the effect is produced by morbid excitement, or disease produced in the organs at the bud-end of the fig—that is, the wounding of them there with a straw to hasten their maturity.—*Rees's Cyclopœdia.*

"The author of the 'Nouveau Dictionaire d'Histoire Naturelle' is disposed to treat caprification as a 'vulgar error.' But there is very little difficulty in reconciling all he says with all that has been said by the learned naturalists who preceded him. Because the fig may be matured without caprification, it does not follow that its maturity may not be hastened and rendered uniform and convenient by means of it. Agriculture is the science of experiment; and, if it be true, as Tournefort asserts it, that in actual practice, the cured figs obtained from a tree are increased from 25 to 250 pounds, it is in vain to look further for its eulogy or vindication. Nor is it to be rejected because, as Olivier asserts, it is unknown or unpractised beyond the Greek islands; nor even from its gradual decline there, unless it can be shown that no diminution of productiveness has resulted from its discontinuance.

"I certainly was under the impression, I confess, it had been discontinued or exploded; but it would seem otherwise from the notice taken of it in a late traveller.

"I will conclude with an observation on the etymology of the word. *Caprificus* is rendered in the dictionaries by the *wild fig*, and it is a mistake to suppose that the operation called caprification takes its name from the practical use made of it, as appertaining to 'the loves of the plants.' It is no doubt a distinction of inferiority, as we say *hog-potato, bete-rave bull-grape,* &c. The fruit is not fit for the use of man as an article of food, and I doubt, from its description, if even the goats would eat it; yet, literally, it means the goat fig."

The discussions were then closed for the evening; and after partaking of a collection of fruit, furnished by the several members, the society adjourned.

PEACH TREES.

The Western Tiller says, that peach trees continue to be in a more healthy state and yield much better upon grass land than upon that which is tilled. The trees upon grass land will bear when those upon the tillage land will not. The article says, "I shall not pretend to theorize on these phenomena, but the inference appears natural that we may have over-doctored the trees, as is sometimes the case with a learned profession in curing diseases incident to human nature." Will not some of our farmers inform us whether the above case will not apply to apple or other fruit trees.

RURAL ECONOMY.

(From the Library of Useful Knowledge.)

THE HUNTER.

There are few agriculturists who have not a little liking for the sports of the field, and who do not fancy rich music in the cry of the hounds. To what extent it may be prudent for them to indulge in these sports circumstances must decide, and they deserve the most serious consideration. Few can, or, if they could, ought to keep a hunter. There are temptations to expense in the field, and to expense after the chase, which it may be difficult to withstand. The hunter, however, or the hunting horse, *i. e.* the horse on which a farmer, if he be not a professed sportsman, may occasionally with pleasure, and without disgrace, follow the hounds, is in value and beauty next to the racer.

He should seldom be under fifteen or more than sixteen hands high; below this standard he cannot always sufficiently measure the object before him, and above this, he is apt to be leggy and awkward at his work.

In proportion as the agriculture of the country is improved, the speed of the chase is increased. The scent both of the fox and the hare will lie better in inclosed and well-cultivated ground, than on open, barren heaths; and there is more running *breast-high* than when the hound is compelled to pick out the scent, carrying his nose almost close to the ground, and consequently going more slowly. The character of the hunter is consequently gradually changing. Stoutness is still required, but speed is becoming more necessary, and, therefore, for the fox, and the deer, and even for the hare, blood is an essential quality.

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[*] "*Of Wild Fig Trees and of Caprification.*—There is a kind of wild fig trees, which the Latines call caprificus, that never brings any fruit to maturity; but that which itself hath not, it procureth to others, and causeth them to ripen. For such is the interchangeable course and passage of causes in nature, that as this thing putrifieth, that engendereth, and the corruption of one is the generation of another. By this it comes to pass, that the wild fig tree breedeth certain flies or gnats within the fruit thereof: which, wanting nourishment, and not having to feed upon in those figs, because they become rotten and putrified as they hang upon the tree, they fly into the other kind of gentle and tame fig trees, where they settle upon the figs, and greedily nibble thereupon until they have made way and pierced into them; and by that means let in at first the breath of the warm sun, and that comfortable and vegetative air besides that helpeth to *ripen* them. Soon after they suck up and spend the milky humor which they find there, and which keeps the figs still as it were in their infancy, and hindereth their speedy and timely maturity. True it is, that the figs in time would ripen of themselves by the power and benefit of nature only. Howbeit, skilful and industrious husbandmen take order always to set these wild fig trees near to the place where other fig trees grow, but with due regard to the wind side, that when the foresaid gnats break forth and are ready to fly out, a blast of wind might carry them to the other. And whereupon came the device and intention to bring whole swarms and casts of them, as they hang one to another, from other places, that they may settle upon the figs to consume the raw moisture within. Now, if the soil be lean and hungry, and fig trees growing thereupon exposed to the north wind, there is no such need of this help: for the figs will dry sufficiently of themselves, by reason as well of the situation of the place, as the clifts and rifts in them, which will that which the gnats or flies above named might perform. The like effect is to be seen also where much dust is; namely, if a fig tree grow near unto a highway much frequented and travelled by passengers. For the nature of dust is to dry and soak up the superfluous moisture of the milk within figs. And therefore when they are thus dried, whether it be by the means of dust, or of the sail flies' feeding, which is called caprification, they fall not from the tree so easily, by reason they are discharged of that liquid substance which maketh them both tender, and also ponderous, weighty, and brittle withal.—*Pliny, part* 1, *b.* 16, *ch.* 19.

In strong, thickly inclosed countries, the half-bred horse may get tolerably well along; but for general use the hunter should be at least three-quarters bred, perhaps seven-eighths. If he could be obtained with bone enough, and different action, a *thorough-bred horse* would form the best of all hunters: but the thorough-bred horse, with the usual action of the racer, would not, even at three-quarters speed, always carry himself sufficiently high to be aware of and to clear his fences.

The first property of a good hunter is, that he should be light in hand. For this purpose his head must be small; his neck thin; and especially thin beneath; his crest firm and arched, and his jaws wide. The head will then be well set on. It will form that angle with the neck, which gives a light and pleasant mouth.

Somewhat of a ewe-neck, however it may lessen the beauty of the race-horse, does not interfere with his speed, because, as is shewn where the structure of the horse is considered, more weight may be thrown forward, and consequently the whole bulk of the animal more easily impelled; at the same time, the head is more readily and perfectly extended, the windpipe is brought almost to a straight line from the lungs to the muzzle, and the breathing is freer. Should the courser, in consequence of this form of the neck, bear more heavily on the hand, the race is soon over; but the hunter may be our companion and our servant through a long day, and it is of essential consequence that he shall not too much annoy and tire us by the weight of his head and neck.

The forehand should be loftier than that of the racer. A turf horse may be forgiven if his hind quarters rise an inch or two above his fore ones. His principal power is wanted from behind, and the very lowness of the forehand may throw more weight in front, and cause the whole machine to be more easily and speedily moved. A lofty forehand, however, is indispensable in the hunter; the shoulder as extensive as in the racer;—as oblique and somewhat thicker; the saddle will then be in its proper place, and will continue so, however long may be the run.

The barrel should be rounder to give greater room for the heart and lungs to play, and send more and purer blood to the larger frame of this horse; and especially more room to play when the run may continue unchecked for a time that begins to be distressing. A broad chest is an excellence in the hunter.—In the violent and long-continued exertion of the chase, the respiration is exceedingly quickened, and abundantly more blood is hurried through the lungs in a given time than when the animal is at rest. There must be sufficient room for this, or the horse will be blown, and possibly destroyed. The majority of the horses that perish in the field are narrow chested.

The arm should be as muscular as that of the courser, or even more so, for both strength and endurance are wanted.

The leg should be deeper than that of the race horse (broader as you stand at the side of the horse,) and especially beneath the knee. In proportion to the distance of the tendon from the cannon or shank-bone, and more particularly just below the knee, is the mechanical advantage with which it acts. A racer may be tied beneath the knee, without perfectly destroying his power, but a hunter with this defect will rarely have stoutness.

The leg should be shorter. Higher action is required than in the racer, that the legs may be clearly and safely lifted over many an obstacle, and, particularly, that they may be well doubled up in the leap.

The pastern should be shorter, and less slanting, yet retaining considerable obliquity. The long pastern is useful, by the yielding resistance which its elasticity affords, to break the concussion with which the race-horse from his immense stride and speed must come on the ground: and the oblique direction of the different bones beautifully contributes to effect the same purpose. With this elasticity, however, a considerable degree of weakness is necessarily connected, and the race-horse occasionally breaks down in the middle of his course.

The hunter, from his different action, takes not this length of stride, and therefore wants not all this elastic mechanism; he more needs strength to support his own heavier carcase, and the greater weight of his rider, and to undergo the fatigue of a long day. Some obliquity, however, he requires, otherwise the concussion even of his shorter gallop, and more particularly of his frequently tremendous leaps, would inevitably lame him.

The foot of the hunter is a most material point. It is of consequence in the racer, yet it is a notorious fact, that many of our best thorough-bred horses have had very indifferent feet. The narrow contracted foot is the curse of much of the racing blood. The work of the racer, however, is all performed on the turf, and his bad feet may scarcely incommode him; but the foot of the hunter is battered over many a flinty road and stony field, and if not particularly good, will soon be disabled and ruined.

The position of the feet requires some attention in the hunter. They should if possible stand straight. If they turn a little outward there is no serious objection; but if they turn inward his action cannot be safe, particularly when he is fatigued or over-weighted.

The body should be short and compact, compared with that of the race-horse, that he may not in his gallop take too extended a stride. This would be a serious disadvantage in a long day and with a heavy rider, from the stress on the pasterns; and more serious when going over clayey poached ground, during the winter months. The compact short-strided horse will almost skim the surface, while the feet of the longer-reached animal will sink deep, and he will wear himself out by efforts to disengage himself.

Every horseman knows how much more enduring is a short-bodied horse in climbing hills, although perhaps not quite so much in descending them. This is the secret of suiting the *race-horse* to his course; and unfolds the apparent mystery of a decidedly superior horse on a flat and straight course, being often beaten by a little horse, with far shorter stride on uneven ground, and with several turnings.

The loins should be broad;—the quarters long;—the thighs muscular;—the hocks well bent, and well under the horse.

The reader needs not be told how essential temper and courage are. A hot irritable brute is a perfect nuisance, and the coward that will scarcely face the slightest fence exposes his owner to ridicule.

The training of the race-horse has not been touched upon. It contains too much mystery, and too much absurdity for common understandings. The *principle* however of preparing both the race-horse and the hunter for their work is the same, and can have no mystery about it; *viz.*, by physic and by exercise, to get rid of all superfluous fat and flesh, without too much lowering the animal; and, particularly to bring him by dint of exercise into good wind, and accustom him to the full trial of his powers, without over-straining or injuring him. Two or three doses of physic as the season approaches, and these not too strong: plenty of good hard meat; and a daily gallop of a couple of miles, and at a pace not too quick, will be nearly all that can be required. Physic must not be omitted; but the three words *air, exercise, food,* contain the grand secret and art of training.

Some think that even the simple process now described is not necessary, and that horses that are taken up and worked in the day, and with a feed or two of corn, and turned out at night, with an open stable or shed to run into if they please, are as active, healthy, and enduring, as those who are most carefully trained, and confined to the stable during the hunting season. Many a farmer has boasted, that he can beat the most numerous and the best-appointed field, and that his horse never wants wind, and rarely tires.

It is true that the farmer may enjoy a good day's sport on the horse that carries him to market, or possibly, occasionally performs more menial drudgery; but the frothy lather with which such a horse is covered in the early part of the day evinces undeniable inferiority. There is, however, one point on which the untrained horse has the advantage. Accustomed to all weathers, he rarely suffers, when, after a sharp burst, there comes a sudden check, and the pampered and shivering stabled horse is exposed with him for a considerable time to a piercing north-easter. The one cares nothing about it; the other may carry home the seeds of dangerous disease.

The hunter may be fairly ridden twice, or, if not with any very hard days, three times in the week; but, after a thoroughly hard day, and evident distress, three or four days' rest should be allowed. They who are merciful to their horses, allow about thirty days' work in the course of the season; with gentle exercise on each of the intermediate days, and particularly a sweat on the day before hunting. There is an account, however, of one horse who followed the fox-hounds seventy-five times in one season. This feat has never been exceeded.

We recollect to have seen the last Duke of Richmond but one, although an old man, and when he had the gout in his hands so severely that he was obliged to be lifted on horseback, and both arms, being passed through the reins, were crossed on his breast, galloping down the steepest part of Bow Hill, in the neighbourhood of Goodwood, almost as abrupt as the ridge of an ordinary house, and cheering on the hounds with all the ardour of a youth.

The horse fully shares in the enthusiasm of his rider. It is beautiful to watch the old hunter, who, after many a winters' hard work, is turned into the park to enjoy himself for life. His attitude and his countenance when, perchance, he hears the distant cry of the dogs, are a study. If he can he will break his fence, and, over hedge, and lane, and brook, follow the chase, and come in first at the death.

A horse that had, a short time before, been severely fired on three legs, and was placed in a loose box, with the door, four feet high, closed, and an aperture over it little more than three feet square, and standing himself nearly sixteen hands, and master of fifteen stone, hearing the cheering of the huntsman and the cry of the dogs at no great distance, sprung through the aperture without leaving a single mark on the bottom, the top, or the sides.

Then, if the horse be thus ready to exert himself for our pleasure—and pleasure alone is here the object—it is indefensible and brutal to urge him beyond his own natural ardour, so severely as we sometimes do, and even until nature is quite exhausted. We do not often hear of a "hard-day," without being likewise informed, that one or more horses either died in the field, or scarcely reached home before they expired. Some have been thoughtless and cruel enough to kill two horses in one day. One of the severest chases on record was by the King's stag-hounds. There was an uninterrupted burst of four hours and twenty minutes. One horse dropped dead in the field; another died before he could reach the stable; and seven more within a week afterwards.

It is very conceivable, and does sometimes happen, that, entering as fully as his master into the sports of the day, the horse disdains to yield to fatigue, and voluntarily presses on, until nature is exhausted, and he falls and dies; but, much oftener, the poor animal has, intelligibly enough, hinted his distress; unwilling to give in, yet painfully and faulteringly holding on. The merciless rider, rather than give up one hour's enjoyment, tortures him with whip and spur, until he drops and expires.

Although the hunter may be unwilling to relinquish the chase, he who "is merciful to his beast" will soon recognize the symptoms of excessive and dangerous distress. To the drooping pace and staggering gait, and heaving flank, and heavy bearing on hand, will be added a very peculiar noise. The inexperienced person will fancy it to be the beating of the heart; but that has almost ceased to beat, and the lungs are becoming gorged with blood. It is the convulsive motion of the muscles of the belly, called into violent action to assist in the now laborious office of breathing. The man who proceeds a single mile after this ought to suffer the punishment he is inflicting.

Let the rider instantly dismount. If he has a lancet, and skill to use it, let him take away five or six quarts of blood; or if he has no lancet, let him cut the burs with his pocket knife as deeply as he can. The lungs may be thus relieved, and the horse may be able to crawl home. Then, or before, if possible, let some powerful cordial be administered. Cordials are, generally speaking, the disgrace and bane of the stable; but here, and almost here alone, they are truly valuable. They may rouse the exhausted powers of nature; they may prevent what the medical man would call the re-action of inflammation; although they are the veriest poison when inflammation has commenced.

A favourite hunter fell after a long burst, and lay stretched out, convulsed, and apparently dying. His master procured a bottle of good sherry from the house of a neighbouring friend, and poured it down the animal's throat. The horse immediately began to revive; soon after got up; walked home, and gradually recovered. The sportsman may not always be able to get this, but he may obtain a cordial-ball from the nearest farrier, or he may beg a little ginger from some good house-wife, and mix it with warm ale, or he may give the ale alone, or strengthened with a little rum or gin. When he gets home, or if he stops at the first stable he finds, let the horse be put into *the coolest place*, and then well clothed and diligently rubbed about the legs and belly. The practice of putting the animal, thus distressed, into "a comfortable warm stable," and excluding every breath of air, has destroyed many valuable horses.

We are now describing the very earliest treatment to be adopted, and before it may be possible to call in an experienced practitioner. This stimulating plan would be fatal twelve-hours afterwards. It will, however, be the wisest course, to commit the animal, the first moment it is practicable, to the care of the veterinary surgeon, if such there be in the neighbourhood, in whom confidence can be placed.

The labours and the pleasures of the hunting season being passed, the farmer makes little or no difference in the management of his untrained horse; but the wealthier sportsman is somewhat at a loss what to do with his. It used to be thought, that when the animal had so long contributed, sometimes voluntarily, and sometimes with a little compulsion, to the enjoyment of his owner, he ought, for a few months, to be permitted to seek his own amusement, in his own way; and he was turned out for a summer's run at grass. Fashion, which governs every thing, and now and the most cruelly and absurdly, has exercised her tyranny over this poor quadruped. His field, where he could wander and gambol as he liked, is changed to a loose box; and the liberty in which he so evidently exulted, to an hour's walking exercise daily. He is allowed vetches, or grass occasionally, but from his box he stirs not, except for his dull morning's round, until he is taken into training for the next winter's business.

In this, however, as in most other things, there is a medium. There are few horses who have not materially suffered in their legs and feet, before the close of the hunting season. There is nothing so refreshing to their feet as the damp coolness of the grass into which they are turned in May; and nothing so calculated to remove every enlargement and sprain, as the gentle exercise which the animal voluntarily takes while his legs are exposed to the cooling process of evaporation, which is taking place from the herbage he treads. The experience of ages has shewn, that it is superior to all the embrocations and bandages of the most skilful veterinarian. It is the renovating process of nature, where the art of man fails.

The spring grass is the best physic that can possibly be administered to the horse. To a degree, which no artificial aperient or diuretic can attain, it carries off every humour which may be lurking about the animal; it fines down the roundness of the legs; and, except there be some bony enlargement, restores them almost to their original form and strength. When, however, the summer has thoroughly set in, the grass ceases to be succulent, aperient, or medicinal; the ground is no longer cool and moist, at least during the day; and a host of tormentors, in the shape of flies, are, from sun-rise to sun-set, persecuting the poor animal. Running and stamping to rid himself of his plagues, his feet are battered by the hard ground, and he newly, and perhaps more severely, injures his legs. Kept in a constant state of irritation and fever, he rapidly loses his condition, and sometimes comes up in August little better than a skeleton.

Let the horse be turned out as soon as possible after the hunting season is over. Let him have the whole of May, and the greater part, or possibly the whole of June; but when the grass fails, and the ground gets hard, and the flies torment, let him be taken up. All the benefits of turning out, and that which a loose box and artificial physic can never give, will have been obtained, without the inconvenience and injury which attend an injudiciously protracted run at grass, and which, arguing against the use of a thing from the abuse of it, have been improperly urged against turning out at all.

The *Steeple Hunt* is a relic of ancient foolhardiness and cruelty. It was the form under which the horse race, at its first establishment, was frequently decided. It is a race across the country, of two, or four, or even a greater number of miles; and it is generally contrived that there shall be some deep lane, or wide brook, and many a stiff and dangerous fence between. It is ridden at the evident hazard of the life of the sportsman; and it likewise puts to hazard the life or enjoyment of the horse. It is getting into gradual disuse, and no man whose good opinion is worth having would deem such an exhibition creditable to the head or heart of him who was engaged in it.

THE FARMER.

Baltimore, Friday, Sept. 9, 1831.

An interesting and valuable communication will be found on our first page from "Cornplanter" in answer to "Potomac" in our last. One remark of "Cornplanter's" is worthy of notice—he says the reason that nothing has been written on the subject of sea-weed, &c. as manure, in that quarter (Eastern Shore of Maryland) is the general knowledge of their value. Here we have the true cause of the present dearth of original agricultural writing. Any process or material in general use in a neighborhood, is supposed to be so every where, and consequently nothing is written or published on the subject. Before the invention of printing, valuable information of this kind was confined for centuries to very small districts from necessity, and now the same evil is experienced from an indulgence in the very erroneous supposition, that because a thing is common in one place, it must be so every where else! What is this but defeating the great end and object of the press, the diffusion of knowledge? It is freely admitted, that the use of sea-weed, marl and shell, as valuable manures, is much more general where they can be obtained than that of many other things; but it is a fact notwithstanding, that millions of loads of sea-weed rot every year on our shores, and even become pestiferous to farmers into whose very fields they unwelcomely intrude; and that there are on the Eastern Shore of Maryland many immense, even inexhaustible marl and shell banks, that have never had a spade put into them by the farmers, in whose sterile fields they are found. So plenty are these banks, indeed, and so little used, that we have often wondered that their valuable contents were not purchased and transported to the farms of persons better acquainted with their value. Do not these facts argue powerfully against the existence of a general knowledge of the use of these manures? Do they not speak trumpet-tongued against the propriety of indulging in such reasons for not writing as that given by our respected correspondent, "Cornplanter?" As there are few agriculturists better qualified by experience and science, we hope "Cornplanter" will resume his pen; for he may be assured there are thousands of persons as ignorant of many of the improvements of agriculture with which he is familiar, as Potomac was of the use of sea-weed, &c.

Castor Oil for Lamps.—A discovery which bids fair to become of considerable importance to the agricultural community, and especially to the western country, has recently been made by Mr. Isaac Smith, of Eastville, Northampton county, Virginia, by which he is able to render castor oil fully equal to the best winter sperm for burning in lamps. We have tried the prepared oil, with a sample of which we were politely furnished by his son, Francis H. Smith of this city, the inventor of the excellent instrument of music called the harmonicon or musical glasses. We trimmed a double wick lamp with the oil, and it was left burning five hours and a half without being touched, during which time it afforded a large and highly luminous flame, perfectly free from smoke or the least degree of offensive smell. The tubes and wick were entirely free from crust till within the last half hour. The wick was raised considerably higher than we were ever able to raise it in burning the best sperm, thus affording a much larger flame; and yet the consumption of oil did not appear to be greater than usual in burning sperm. The preparation of the oil reduces the price about nine per cent. so that allowing the price of castor oil to be 95 cents, the cost of the prepared oil will be 86 cents per gallon. As Mr. Smith intends to take a patent for his improvement, we are not at liberty to give the particulars of the discovery. We have given the address of Mr. Smith above, that persons wishing further information may be able to obtain it from him direct.

American Acorns Wanted in England.

To the Editor of the American Farmer:

Sir:—As an honorary member of the London Horticultural Society, I feel a particular obligation to respond to the following call, through my worthy colleague, Judge Buel, who, you know, has contributed so largely, by his writings and practical illustrations, to introduce new fruits and vegetables, and to improve those already known in our country. I do not know how our object can be so readily attained as by an insertion of the following letter; knowing, as I have often had occasion to do, how promptly such calls are met by a few gentlemen, of liberal and courteous spirit, residing in every state. At no place so easily as at Baltimore can collections of this kind be made, through conveyances by land and water; and I shall be happy to send to Judge Buel all that may be forwarded of the seeds of a tree so valuable, and which abounds with us in so much greater variety than in Europe.

Yours, J. S. Skinner.

Albany, Aug. 19, 1831.

Dear Sir,—I have been requested to procure, for the London Horticultural Society, acorns of American oaks, sufficient to produce two or three plants of each species in the garden of the society. I cannot execute the commission without the aid of gentlemen in different sections of the union. Will you have a note inserted in the Farmer, with the view of facilitating these labors. Say a request to have forwarded to you half a pint of acorns, of the species of oak peculiar to the southern and middle states, with the specific or common name of each, the locality and contributor's name. They may be sent to Thorburn and Son, New York, in November, addressed to me. Your zeal to promote useful knowledge is my only warrant for troubling you with this commission.

Very respectfully, Jesse Buel.

John S. Skinner, Esq.

FOREIGN MARKETS.

Liverpool Cotton Market, *August* 3.

There is little business doing in our Cotton Market this week, with no alteration whatever in prices. The sales on Monday 1509, yesterday and to-day the sales dull. The imports this week are fair.

Liverpool Corn Exchange, *August* 2.

The arrivals of Grain from Ireland and coastways have been very trivial, but of Canadian and foreign wheat and flour the imports have been pretty considerable since Tuesday last. This day's market was but thinly attended, and sales only to a limited extent were made of any article. Wheat of the best qualities may be quoted 2d a 3d, and inferior qualities 4d to 6d lower. Flour 1s to 1s 6d per sack and barrel, and Indian corn 1s a 2s per quarter lower.

Liverpool, August 3d.

The harvest in this neighborhood looks promising, and reaping has already been commenced in several places.

Liverpool, 1st August.

The sales of cotton last week, including those at public auction, amounted to 23,210 bales, including 100 Sea Island at 10¾ a 14; 10 Stained at 8½, 10,900 Upland at 4¾ a 6 3-8, 3,500 Orleans at 5 a 7½, 2,700 Alabama at 4½ a 6. At public auction 1080 Sea Island at 10 a 20, 320 Stained at 5 a 8⅝.—The attention of purchasers was principally directed towards the inferior qualities of American, (especially Upland) and in such, of the value of 5½ and under, an advance of 1-8 per lb. was generally obtained; about 3000 of the American were on speculation. The public sale of Sea Islands was numerously attended, and the good qualities of the inferior lots went off at ¼ a ½ per lb. above the last public sale, but scarcely on a par with the previous business by private, after the sale, about 250 bags were taken at the full sale prices, being an advance upon the biddings made in the room. The import of the week was 9,900 bales, and since the 1st January 530,700, against 547,300 to same period last year; the decrease from the U. States is 42,000 bales. The sales on Saturday (30th ult.) were 2000 bales, and the market quiet.—Tar, 500 barrels sold at 11s6d per bbl. and 1330 of Turpentine, good quality, at 10s6a10s8d per cwt; 10s9d is now asked by the principal holders. Cloverseed, 35 casks at 61s per cwt. The recent warm and seasonable weather has put a stop to operations in Grain and Flour, and prices are nearly nominal: at foot you have particulars of the stocks on hand—Tobacco, the sales of the past month, are only 469 hhds. say 183 Virginia Leaf and 229 Stemmed, 11 Kentucky Leaf and 46 Stemmed. Our stock consists of 5060 hhds. against 4411 at this period last year.

Average of Wheat for week 64s3d, 6 do 66s3d, Duty 20s8d, on Flour 12s5½d.

FOR SALE,

A JACK of fine size, five years old, imported from Malta. He is recommended with confidence as one of the quickest and best covering Jacks in America. To save trouble the price is $300 or $150 for the season, payable in advance—or he will be exchanged for a thorough bred untried mare not less than 15½ hands high, or for a *first rate* saddle horse, or one for harness that will do his mile in not exceeding three minutes.

Enquire of J. S. SKINNER,
Baltimore.

ELKWOOD ESTATE.

To be sold, that well known, and highly valuable estate in the county of Culpeper, Virginia, about 30 miles from Fredericksburg, late the property of Mr. Carter Beverly, and afterwards of Mr. John S. Thornton, but now in the occupancy of Mr. John Browning, who is going to England. The estate is so well known for the fertility of its soil, and the beauty of its situation, that a particular description is unnecessary. The mansion house is in excellent repair, and is happily placed on a gentle eminence in the centre of the property. It is bounded on the east, northeast, north, and northwest, by the river Rappahanock, on the banks of which lie near 700 acres of fertile land, the most part river bottom, at present in the highest state of cultivation, and covered with luxuriant crops of clover. The surrounding uplands produce excellent wheat, rye, and oats, and there is a sufficient body of wood to maintain the fences. It has likewise the singular advantage of a small stream passing through it, which never fails; so that all the fields are well watered, and there is a capital mill site on which formerly stood a merchant mill, and saw mill. The farm building, barn, cornhouse, overseer's house, negro quarters, &c. are at a convenient distance from the mansion house, and afford the most ample accommodation.

The property will be sold by public auction in June next, 1832, altogether or in lots, as may suit the purchasers, should it not be disposed of in the mean time by private contract, and ample time will be allowed for the payment of the purchase money. It is presumed an estate so well calculated for the residence of a gentleman, on account of the beauty of its situation, and substantial improvements, cannot be found in Virginia. It is estimated to contain about 1331 acres, and is remarkable for the salubrity of its air, and the absence of marsh and stagnant waters. Letters, post paid, may be addressed to the proprietor, at the post office, Stevensburg, Culpeper county, Virginia, and the premises may be viewed at any time.

August 19.

ORCHARD GRASS SEED WANTED.

WANTED IMMEDIATELY by the subscriber, a few hundred bushels of Orchard Grass SEED of this year's growth, and free from noxious seeds, for which cash will be paid on delivery. Who has on hand his usual supply of Agricultural Implements, such as superior Ploughs, Wheat Fans, Cultivators, Harrows, his patent cylindrical Straw Cutter, superior Rag Cutters for paper making, Dutch Cutting Boxes, Scythes, Hay and Manure Forks, Hoes, Brown's vertical Wool Spinners, Wire Safes, and Wove Wire, &c. &c.

Also a general assortment of the Messrs. Landreth's Garden Seeds, for sale, and will furnish fruit and ornamental TREES from their nursery to order.

On hand, Clover, Timothy and Herd's Grass Seed.

And likewise keeps a general assortment of Grass Seeds for sale, of such as can be depended on.

J. S. EASTMAN,
Sept. 9. No. 36, West Pratt street.

WOOL WAREHOUSE.

LYMAN REED,

Commission Merchant, No. 195 *Baltimore street,*

Devotes particular attention to the sale of WOOL. Any consignments of the article forwarded to him for sale, can be disposed of immediately for CASH, at the highest market price.

CASH, and a fair price, will be paid for a few thousand pounds of *good wool,* (if offered immediately,) to supply orders now on hand.

Refer to Messrs. Cobb, Wyman & Co. Baltimore.

BALTIMORE PRICES CURRENT.

Baltimore Market.--There is not the slightest variation in flour or grain. The receipts of flour still continue very limited, and the wagon price of Howard street remains the same, $5.56¼. So far as we can judge, the crop of wheat will fall far short of an average crop: this together with the injury sustained by much of that which has been harvested, will probably tend to enhance the prices of both wheat and flour. There is no change in wool, beef or wood.

Tobacco.--Seconds, as in quality, 3.00 a 5.00; do. ground leaf, 5.00 a 9.00.—-Crop, common, 3.00 a 5.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 10.00; yellow and red, 8.00 a 14.00; yellow, 14.00 a 16.00.—Fine yellow, 16.00 a 20.00.-–Virginia, 4.00 a 5.00.—Rappahannock, 3.00 a 4.00——Kentucky, 3.00 a 8.00. The inspections of the week comprise 539 hhds. Md.; 26 hhds Ohio;—total 565 hhds.

Flour—best white wheat family, $6 00 *a* 6.50; super Howard-st. fresh $5.62½ *a* 5.75; city mills, fresh, 5.25. 5.50; Susq.— *a* —; Corn Meal, bbl. 3.50; Grain, Md. red wheat, 90 *a* 1.12½; white do. 1.10 *a* 1.22, Susq. -— *a* —Corn, white, 65 *a* 66--yellow 65 *a* 67—-Rye, 70 *a* 71. Oats, .30 *a* 33. Beans, 75 *a* 80--Peas, 65 *a* 70—Cloverseed 5.25 *a* 5.75-Timothy, 2.00 *a* 2.50--Orchard Grass 1.37½ *a* 1.75-Tall Meadow Oat Grass 2.00 *a* 2.75-Herd's, 50 *a* 75-—Lucerne 30 *a* 37½ lb.—Barley, —-Flaxseed —-- *a* —--Cotton, Va. 9 *a* 9½-——Louisiana 11 *a* 13 —Alab. 9½ *a*. 11—-Tenn.. 8½ *a*. —--N. Car.. 9 *a*. 9½-— Upland 8 *a* 10—Whiskey, hhds. 1st p. 32 *a* 33—; in bbls 34 *a* 35---—Wool, *Washed*, Prime or Saxony Fleece 58 *a* 67; American Full Blood, 50 *a* 58; three quarters do. 44 *a* 50; half do. 38 *a* 44; quarter and common do. 35 *a* 38. *Unwashed*, Prime or Saxony Fleece, 36 *a* 40; American Full Blood, 33 *a* 35; three quarters do. 30 *a* 33; half do. 28 *a* 30; quarter and common, 25 *a* 28-— Hemp Russia ton, $255 *a* —; Country, dew-rotted, 5½ *a* 7c. lb. water-rotted, 7 *a* 9c.—Feathers, 35 *a* 36; Plaster Paris, per ton, 4.25 *a* -—, ground, 1.37½ *a*-— bbl. Iron, gray pig for foundries per ton 33.00 *a* ——; high pig for forges, per ton, 28.00 *a* 30.00; bar Sus. per ton, 72.50 a 80.00.—Prime Beef on the hoof, 4.75 *a* 5.25—Oak wood, 3.00 *a* 3.25--Hickory, 4.25 *a* 4.50—Pine 2.00 *a* 2.25.

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EDITED BY GIDEON B. SMITH.

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TERMS.

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2. Subscriptions are in all cases charged *by the year*, and never for a shorter term.
3. When once sent to a subscriber, the paper will not be discontinued without his special order; and then not till the end of the year of his subscription that shall be current at the time of receiving such order; except at the discretion of the publisher.
4. The risk of mail in the transportation of both the paper, and of bank notes sent in payment for it, is assumed by the publisher.
5. Advertisements connected with any of the subjects of the American Farmer, inserted *once*, (seldom more) at one dollar per square.
6. All letters concerning this paper must be directed to the publisher. They must be free of postage, except communications intended for publication, and letters containing money.

☞ All Postmasters are requested to act as agents for the Farmer; they are authorised to retain $1 for each new subscriber, and 10 per cent. on *all other* collections.

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AGRICULTURE.

Mr. Smith: *White Post, September 10.*

Dear Sir,—If you can discover in the following extracts of letters a deeper and more valuable interest than the mere personal relation they bear to any individual, I would respectfully ask for them a place in the American Farmer. Yours, &c. R. K. M.

FREDERICK SHEEP ABROAD.

Extracts of letters to R. K. Meade, from Dr. Richard Mason, of Fairfax, the Rev. Mr. Kirkpatrick, of Cumberland County, Virginia, Wm. H. Freeman, of Baltimore, and others.

June 21, 1831.

"I have shorn all the sheep (two rams second shear, and two ewes, one of which was a late lamb,) they averaged 8 lbs. 13 oz.—this strikes every one hereabouts with astonishment, and I think has in some instances excited the incredulity of those to whom I have mentioned the fact—for although, they have not the incivility to express doubt, they have *looked* it. I was in the beginning struck with the difference in form between the two rams—the smaller one having decidedly the superiority—but I was never fully impressed with the wide difference until since their fleeces have been taken off. The largest ram always appeared to me as the *shortest* sheep for his bulk and height I have seen—whilst the other presented in a remarkable degree the opposite form—when they were shorn I measured them around the body, and in length from the root of the horn, to the root of the tail—and found the large one to measure 4 feet 5 inches around, and 4 feet 10 inches in length—the other 4 feet around, and 5 feet long—showing a most striking difference in the proportions of the two. I have some time since given a decided preference to the smaller one although at first, as I wrote you, the size of the other almost weighed with me against the acknowledged superiority of form in the smaller one." Note by the breeder. These sheep were both conspicuous, and peculiar in their form—and two years old—the largest one, with a propensity to grow to too great size for ordinary pastures—but always fat, and carrying his frame rather high from the ground. The other is the ram exhibited by an engraving in the American Farmer in the autumn of 1830—consequently might be supposed not only to be a great favourite, but superior to all the rest—but it is a fact, that the gentleman who purchased him would have selected many others in preference to him, and indeed would have done as well, in some cases better—but any animal of the sheep kind that will girt 4 feet and measure in length 5, will be found to be peculiar in his form—this ram resembled much the Irish sheep, round barreled and long, with short legs, and a beautiful Roman nose.

Cumberland Co. Va. August 8, 1831.

"In conformity with your request, I give you in the first place some account of my yearling lambs. I sheared them the 1st day of June—one full blood male gave a fleece a little above 10 lbs. of very fine wool—one half blood wedder gave a little over 11 lbs.—the lightest fleece of the half bloods weighed 6 lbs. Thus doubling and more than doubling, the value in *fleece* the finest lambs I have ever hitherto raised—the same success attended the half bloods raised by a brother-in-law, my next neighbour. This season some half bloods have been brought to the table shewing as great a superiority in flesh, as others have done in fleece. I have at present a little flock of very superior lambs, three of which are full blood *Fredericks,* (so we call them,) one ewe and two males, very great favourites with all who have seen them."

"A pair of your long wooled sheep, and a pair of your pigs, are already items that stand upon the catalogue—in addition to these, I want a couple of the *very finest young ewes,* of the short-wool, that you will consent to let me have.. Two of your Durham or *Frederick* Short Horns, I am very anxious to procure."

"Note. This most zealous farmer and estimable divine, the Rev. J. Kirkpatrick, it is hoped will soon be in a fair way of supplying a portion of lower Virginia with improved stock, if to the pleasures and profits of stock raising, he is willing to encounter some corresponding troubles. This will be the third season he has made removes of stock from Frederick to Cumberland—his success in the sheep way, holds out encouragement for others to do like him, at least in part—*his* enterprize has smoothed *their* way, and rendered much cheaper and safer a foundation to be derived from him—if he has as he thinks and states, which cannot be doubted, more than doubled the value of his fleece already, and in a county and climate *supposed* to be inimical to their constitutions, how important must be the change."

Mr. William H. Freeman, of Baltimore, says, in reference to some sheep he had purchased, "they are in excellent health, and surpass, in every respect, our expectations. Since their arrival here, most of my neighbours have been to see them, and it affords me real pleasure to say, that they have met with unqualified approbation."

Other gentlemen in Maryland and Virginia—"a finer animal cannot be found. Such wool is no where else to be found in this country; and certainly unites in an uncommon degree the two most desirable qualities of length of staple and fineness of texture."

"He is a fine animal indeed, far surpassing any thing that has ever been seen in this part of the country, and no doubt will improve my flock greatly, bad as our sandy country is for pasturage." It will be uninteresting to multiply extracts—but one solitary exception has ever been received to mar the flattering acknowledgments on the subject—animals having much to grow, and close shorn. Let this occasion be improved in thanking gentlemen for their very polite and kind consideration (those who are willing to pay liberal prices to improve their flocks) in making gratuitous offers of the offspring of rare and imported sheep for the benefit of the Frederick stock. At present it is thought inexpedient to change—but it cannot be foreseen when a judicious cross may be really advantageous, and no opportunities will ever be neglected to sustain their present reputation. To those who are desirous of improving their flock, let it be said—do not wait, for the desirable opportunity of crossing from any particular breed of however great reputation—but begin at once with the very best in your power, approaching as near as possible to the several cardinal qualities—you cannot go wrong, if after having crossed the Merino of the best blood on your common country sheep, you are judicious in selecting his progeny to continue the stock.

(From the Library of Useful Knowledge.)

FARM REPORTS, No. II.

KYLE IN AYRSHIRE.

(Concluded from page 203.)

DRAINING.

As a means of improvement, draining is the most important, the most permanent, and that which ought to precede every other. The drainage hitherto accomplished here, has been chiefly applied to carrying off water rising from the subsoil or springs. The most effectual amelioration, however, which land such as this farm consists of, can receive, is from what has been called furrow or surface draining. The greatest defect of this soil is occasioned by its shallowness, and the retentive nature of the subsoil, in consequence of which, the water falling on the land has not a sufficiently rapid vent. These drains are cut into the subsoil, so as to deliver the water as it approaches its surface. The distance at which they are placed must depend on the soil's depth, and the degree of facility with which water can pass through it, a drain doing more execution in a porous and deep soil, than in the reverse. Here from twelve to eighteen feet seems a sufficient distance. Though it has not hitherto been possible to accomplish much of this kind of draining, yet as all the drains that have been made, have been finished in such a way as to act also as surface drains, there has been sufficient experience to warrant submitting a description of them.

If the soil be of eighteen inches depth, six inches taken out of the impervious subsoil affords sufficient security for a drain; but however shallow may be the soil, the bottom of the drain should, at the very least, be twenty inches below the surface, for less will not admit a sufficient depth of stones to render the exit of the water for ever certain. The trenches are opened a foot wide at the surface, and diminish in width towards the bottom. If the clay forming the subsoil be solid, the trench in it is thrown out with a wedge shaped spade, whose point is three inches broad, and this effects a saving of stones, but in other cases it is safer to have the bottom seven or eight inches wide. In opening the trench the soil is laid down nearest to it, and the clay thrown furthest off, *so that no part of it may be returned.* The next operation is the filling up of these trenches. The rubbish of a freestone quarry within the farm is the material used. When the bottom of the trench is soft it is flagged with thin stones, and if the quantity of water to run in it is considerable, a conduit is made with side stones and covers, otherwise the stones are thrown in without placing, beginning with the largest, none of which are the size of a man's fist, and finishing with the smaller, which are freed from sand by being thrown into a riddle. When brought within ten inches of the surface at the furrows, the upper part of the stones is consolidated and closed together by means of a hammer. It often happens that there are not ten inches of soil at the furrows, in which case the trench is further filled up with the sand extracted from the small stones, and as a plough passing through this can in no way injure the drain, it may safely, if requisite, be carried up to the very surface. Constructed in this way, it is not easy to conceive how a drain should ever become inoperative.

It is obvious that, by this mode of draining, the defect arising from a retentive subsoil, may be most completely remedied; to obviate the evil of shallowness of soil would require, in addition, trenching to the depth of ten or twelve inches. The expense of the operation must in every situation vary with the distance of the materials and the facility of obtaining them. Here the drainage of an acre of land may be completed, according to the distance from the quarry and other circumstances, at the rate of from *4l.* to *6l.*, an outlay very trifling, when compared with the extent and permanence of the benefit derived from it. On the estates in this county belonging to his Grace the Duke of Portland, surface draining has for several years been carried on to a great extent. These drains are constructed with single arched tiles, upon which the soil is returned and the subsoil is scattered on the surface. It is considered that by this means his Grace has accomplished a very profitable amelioration. Except in very rare cases, the drain made with tiles is less expensive than that made with stones, and where the soil is easily permeable by water, the one may answer as well as the other; but where the soil is tenacious, one would suppose that the access to the conduit formed by the tile must be difficult. In any kind of soil, however, it is not possible that a drain formed in this way can be as efficacious, as one done as above described with the freestone rubbish, where an open pervious mass may be brought up if necessary to the very surface.*

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* It is to be feared that the draining done by the Duke of Portland, in Ayrshire, and executing by his Grace in Northumberland, will, in a few years, be entirely useless, owing to no stones being put in the drains over the tiles.

MANURE.

Of this, almost the only source here is the farm-yard, and, considering its value, and how much that value depends on its treatment, it does not yet receive all the attention it deserves. On a farm of this extent, on which there has never in one year been above three acres of turnips and four of potatoes, it is perhaps a good deal to have manured eighteen acres in a season, from the farm yard and the servants' cottages, and yet there is no doubt a great deal more might have been accomplished, as respects both quantity and quality. If exposed to rain, the most soluble and richest parts are carried off. Observe the luxuriant vegetation wherever the dark liquor from a dunghill touches, and the loss may be estimated. If allowed to come into a strong heat, its substance may be seen passing into the air. The only part of it that requires rotting or fermentation, to render it soluble and fit to become food for the roots of plants, is the woody fibre of vegetables; the slower, however, and more confined the manner in which this process goes on, there will be the less loss. Some practical farmers have advocated the use of dung in its recent state, others have said it should not be used till well rotted. But if in the process of rotting it palpably undergoes waste, the place in which it must with most advantage be rotted, is under the soil of the field. There is then no loss that can be avoided. The fallacy in this controversy arises, it is suspected, from not adverting to the circumstance, that equal bulks of recent and of rotted dung contain very different quantities of the food of plants. In the latter it is more concentrated, and in a state fitter to be immediately consumed by their roots. But the correct way of stating the question is this: having a given quantity of recent dung to apply to a given extent of land, is it not better to plough it down in its recent state, than previously to allow it to ferment and rot in heap? In the first case, there is no loss; the decomposition goes on as slowly as possible, and all the elements of the substances of which it is composed are retained in the soil as they are set free. In the second, the decomposition is rapid, and a much larger proportion of matter will be found to have flown off than could easily be imagined. Any person without the aid of knowledge of chemical principles may satisfy himself on the point by an easy experiment. Take two acres of ground of equal quality; take twenty tons of recent dung, which apply to one of them: take twenty tons of the same dung and put it up in heap till it becomes a black solid mass, and then apply it to the other acre, balance the produce of the one against the produce of the other, at the end of the fourth year, and if the experiment be well conducted the result ought to be satisfactory. A knowledge of chemical principles leads to the inference, that dung ought to be used in its recent state, and any disappointment which, in practice, may have attended the adoption of this inference, will be found to have arisen, not from a defect in the theory, but from a want of due observation of circumstances in its application. If immediate effect be absolutely requisite, as in raising turnips, then rotted dung must be used, but care should be taken in preparing it, to prevent its heat from rising high or any of it from escaping, either in a liquid or in a gaseous state. This is best accomplished by compression and by covering well up with earth.

To increase the manure raised on the farm is a constant aim. A large portion of the straw is consumed by the cattle and horses, and no hay is ever sold. A considerable quantity of vegetable matter is collected from plantations and waste places, and with this, and the refuse straw, the farm-court and the approaches to it are kept littered so as to collect the droppings from the cattle and horses. The whole is occasionally carried off to the dung heap, and new litter applied. It is surprising how much dung may be produced by constantly collecting all refuse, which, if allowed to lie, would soon disappear. The horses are never allowed to pasture; from the 1st of June to the end of October, they are fed in the house on green food, consisting of red clover, rye-grass, and vetches. The calves that are reared are also fed in the same way in a yard, and in the course of the pasturing season, convert a great deal of vegetable matter into excellent manure. There are always, too, at this season, a few pigs fed entirely on whey; and by these means much dung is made even in summer. There is no danger of dung made by animals in yards overheating in the warmest season, but without considerable precaution stable litter will then be very soon consumed away. For the purpose of preventing its rapid fermentation, peat moss was for some years used and regularly mixed with it in layers; but earth of any kind, or road-scrapings, will be found to effect the purpose, and in winter the cleanings of the cow-houses answer the end. What is made in spring and summer is taken to the fields as it is needed, and in winter it is taken to the field as often as possible, put up into heaps over which the horses and carts pass, and then well covered over with earth.

Lime.—To bring the land here to its greatest fertility, lime is essential; and to use it in large doses, and at distant intervals, is thought to be the most advantageous way of applying it. From one hundred and sixty to two hundred Winchester bushels per acre, are considered about the proper quantity, though one half of that accords with the practice of this district, where it seems often to be applied as if it were a substitute for dung. In most vegetables a little lime is found; every good soil contains a small proportion of it. This proportion, if wanting, ought to be supplied; and it would seem to be more advantageous to supply it at once, than by degrees, and at intervals. Hot lime, indeed, tends strongly to promote the solubility of inert vegetable matter in the soil; but to produce a given effect, the smaller the quantity of this matter in the soil, the greater ought the dose of lime to be. The quantity of it entering into the plants themselves is so small, that it seems to be chiefly by its affinities for water and for the other constituents of the soil, that it influences vegetation. It has been often observed in fallowing this clayey soil, that in wet weather, where a dose of lime has been just given, the land continues more friable, and is less apt to bind up on the recurrence of drought, than the rest of the field of similar quality. The grain growing on the well limed ground preserves its healthy appearance in wet seasons, while that growing on land that has not been limed is yellow and sickly. Wherever lime is laid upon pasture, the herbage assumes a more healthy colour; and though coarse before, is immediately eaten closely down by cattle. This is the case, though it be applied in a very moderate dose, and it is so to a much greater degree than would happen were manure in the shape of well rotted dung applied in far larger quantities than the inert vegetable matter in the sward can be supposed to afford through the action of the lime. For top-dressing pasture, the best mode of applying it is in compound with earth. Sometimes the full dose has been laid upon the sward a year, previously to being broken up, but it seems preferable to apply it in its caustic state, while the ground is under fallow, when it can be most intimately mixed with the soil. The lime-stone is imported from Ireland, and burned on the spot in kilns made of turf. When ready to spread upon the land, its cost, including the cartage of the stone, and all other charges, amounts to about eightpence a bushel.

THE SECURING AND MANUFACTURING OF THE CROPS.

The result of the experience of this farm is decidedly, that all grain, but especially wheat, should be cut without regard to its colour or the greenness of the straw, as soon as milky juice can no longer be seen on bruising the pickle with the fingers. The extent of the loss sustained by the reaping of wheat being delayed for eight or ten days beyond this period, is very great. The best of the grain falls off in handling, and the sample is not so fair as that of grain cut even before the milkiness is quite absorbed. The wheat when cut is set up in shocks or stacks of eight or ten sheaves, covered with a couple of hood-sheaves, and if this operation be well performed, it will stand a week's rain without injury. In this precarious climate, oats ought always to be hoodsheaved too. Peas are not sheaved, but left loose, and frequently turned. If the grain be in a doubtful state, care is taken to make the stacks small. A considerable part of the crop is stacked on frames supported by pillars with coping stones, and the whole ought to be preserved in this manner. Vermin are thus excluded, and the air circulates beneath the stack, and to any extent may be conducted through it by vents. The mode of stacking peas, chiefly adopted, is to build them round a high square or triangular frame, to which the air is freely admitted.

The crop is thrashed by a mill driven with great ease by three horses. In general, as much straw is thrashed each morning as serves the cattle for the consumption of the day. No oats are sold; they are converted into meal for the sake of getting the dust and shelling, which are found very useful in feeding the horses.

THE LIVE STOCK AND ITS MANAGEMENT.

1. *Horses.*—Moderate sized, active horses, are used. An effort is made to feed them as long as possible on green food, as the most economical, and as most conducive to the increase of manure. The means employed, are clover and rye grass assisted by vetches. While on this food, and at ordinary farm work, they get no oats. When the green food fails, about the end of October, hay is first substituted, and, as the days shorten, oat or pea-straw. They now get each two feeds of oats in the day, or one fifth of an imperial bushel. In cleaning the oats, the weaker are separated for the use of the horses. These are again put through the fanners, or winnowing machine, and the refuse is used in making boiled food for them. Before breakfast, a boiler is filled with oat or wheat chaff, or cut-hay, mixed with a little of the refuse oats, or a little refuse wheat, or a few peas, or a few potatoes, certainly not equivalent in nutriment to half a feed of oats to each horse. At dinner time the contents of the boiler are emptied into a cooler, and mixed with some of the oat dust mentioned above, and of this, each horse, when his day's work is over, gets about a pail and a half. They get a great deal more fodder than is necessary, having always placed before them as much as they can destroy. It is conceived that sixteen or eighteen pounds of good hay would be enough for each, but there is no innovation which the farm servants have resisted with more perseverance than this, and the horses are allowed at least a half more. They are very constantly and regularly worked nine hours a day, and are very seldom a day idle; on this regimen, they have been always healthy and in good condition. The state in which a horse is capable of the greatest exertion and speed, is not one most conducive to health, and for a horse employed in ordinary farm work, rich and concentrated food is not only unnecessary, but injurious. Green succulent vegetables are alone quite sufficient for him. When this cannot be had, and there are no turnips, boiled grain and chaff are, to a great extent, a substitute, and the food described as given in this shape, might, it is believed, be beneficially increased. This supposition is founded, in some degree, on the analogy of what has been observed in feeding milch cows and young cattle. When cows that are feeding on straw or hay, get boiled chaff, their bowels are immediately brought into a healthful state, and their condition instantly improved, and a very small quantity of turnips, half a dozen even, a day, produces similar effects. These effects proceed not from the addition of nutriment supplied by the boiled chaff, or the turnips, but from the power which these give to the intestines to ex-

tract more nourishment from the fodder. It is not unlikely, that if all the oats the horses get were boiled with chaff, a smaller quantity would be sufficient.

2. *Sheep.*—The most profitable stock of this description that has been tried has been black-faced, or Chevoit lambs, purchased in the month of August, and sold to the butcher the following June and July. For the first two months of spring, however, the pasture is so exceedingly bare, that they were found very difficult to keep within the fences, and ewes are now substituted. They are purchased as soon as the grass is up, the lambs are sold as they become ready to kill, and the ewes are fit for the butcher by December.

3. *Cattle.*—These are entirely the Ayrshire dairy breed; and are both a dairy and a breeding stock.* From fifteen to eighteen is the number of cows kept, and six or seven grey calves are annually reared. The calves get from ten to twelve quarts of new milk a day for the first six weeks. By the time they are ten days old, they will eat a little, and are supplied with hay and grass. They are then gradually weaned by mixing the new milk with an increasing quantity of skimmed milk, or the whey of new-milk cheese. When two months old, they get whey alone, which is continued to them through the season. They are allowed to run loose in a yard with a shed, and are supplied with green food in cribs. When the green food is at an end, they get, with straw, as many turnips as can be afforded to them, generally, a small quantity. The second and third seasons, they are pastured, and in winter, get, with straw, a small portion of turnips, if they be to spare.

Experiments on the nutritive matter in the straw of different kinds of grain, similar to those conducted by Mr. Sinclair relative to the grasses, are very desirable. Horses and cattle seem to eat the straw of beans and peas as readily as hay; and the experience of this farm leads to the belief, that the straw of wheat possesses much nourishment. It is coarse and woody, indeed, but contains a great deal of saccharine matter; and if used with a very small addition of turnips, the cattle are found to thrive on it. Last season, there were fed here from the beginning of November to the middle of May, eight greys, rising three years old, five rising two, and five rising one. They had two acres of yellow turnips, a middling crop, and the oldest two lots had nothing besides but wheat straw. The largest proportion of the turnips was given to the youngest lot; for some time, the eldest two got scarcely any, and for six weeks previous to the grass, wheat-straw alone, without a turnip, was the food of these. They all grew well, and retained their condition, and no falling off on the part of the latter during the last six weeks was perceptible.

There is no reason to doubt that the mode described, of feeding during the first season, is preferable to pasturing. Besides the excellent dung produced, the animals arrive, under this treatment, at a much greater size. As they approach having calves, some of them are sold, the best being selected for the dairy, where they are milked for three or four years. They often have calves at two years old, and if they have previously attained sufficient size, and the feeding be afterwards good, a milch cow is thus obtained at very moderate cost, but otherwise, they will remain small, and probably not take the bull again the season after calving.

The Ayrshire cows are generally allowed to be the best that are known for the purposes of the dairy. In the end of autumn, when the nights become cold, they are kept in the house after sunset, and get a little fodder; and from the middle of November till the pasture be again ready for them, they are fed entirely in the house, and let out only in fine weather to get water. They are regularly curried, and kept as clean as possible. Having not a sufficient quantity of green crop to supply them with succulent food, the milk is put off them as quickly after they are taken from the grass as it can with safety. Those that are to calve late in spring, and are continuing to give a considerable quantity of milk, get a little extra feeding; the rest have straw alone. When the calving time approaches, they get chaff or cut hay boiled in a good deal of water, and enriched with a few potatoes, or a little pea-meal with hay to eat. In this way, they go to the grass, which happens in general about the middle of May, in as good condition as when they left it. No food is found to produce so much effect as pea-meal, and will be profitably bestowed at the ordinary price of the grain; and though given in a very moderate quantity.* Till the beginning of June, they are seldom allowed to lie in the field during the night, but though they are protected as much as possible from cold, their houses are at all seasons kept well aired and cool.

The cows are milked twice a-day, and the produce converted chiefly into sweet milk cheese, that is cheese made of the entire milk as taken from the cow. In such a situation as this, as to climate and soil, it is probably impossible to make cheese having the fine flavour of that of Gloucester and Wilts, but for some years past the production of a rich, mild and palatable cheese has been attained. Any person desirous of knowing the details of the most approved mode of cheese-making, in this part of Scotland, is again referred to Mr. Ayton's work. It may be sufficient here to notice one or two peculiarities. The milk is not allowed to cool, but thickened as taken from the cow. If the milk be allowed to stand till the cream separates from it, the cream can never again be completely blended with it or retained in the curd when set, and the cheese is poorer, and this, without great care in the management, to a considerable extent. The bad qualities of cheese may be produced in a variety of ways, but there is a certain rankness of flavour which it is conceived is the effect of the pasture, at least it could be attributed to no other cause here. This has been uniformly overcome by throwing into the pail before each cow's milk is draw into it, about the half-full of a teaspoon of saltpetre. On this subject, however, it is more easy to speak as to results, than to state precisely their causes. It would conduce much to perfecting the art of cheese-making, were a series of experiments completed for ascertaining the general principles on which depends the great variety in its products.

The average produce of each cow, exclusive of her dung, has been 6*l.* 17*s.* and the pasture allowed to each not less than three acres. The deductions are obvious, such as the dairy implements, the dairymaids' wages during the pasturing season, and interest of the value of the stock. From the way, however, in which the latter is managed, there is no deterioration of it, as, unless on the supposition of a constantly falling market, the cows should be of as much value when sold as when taken into the dairy. In a situation unfavourable for tillage, and especially on small farms, the dairy is certainly a profitable mode of husbandry. Its success depends on constant attention and minute care, and on a small farm it is managed by the farmer's wife and family, while the offal goes a great way towards their sustenance.

4. *Pigs.*—They are peculiarly valuable in connexion with the dairy. The breed is small, and they do not exceed fourteen or fifteen stones imperial weight at a year old, but they are very hardy and remarkably easily fed. During the cheese-making season, they get whey alone, on which food they become quite fat. In winter they have boiled potatoes. A breeding sow is kept. Her spring litter is disposed of. As many of her second litter are kept as are necessary for killing in winter and spring, and for the consumption of the whey of the ensuing season. Those intended for the latter purpose are allowed to have pigs about the beginning of July, when they are ten months old. The having pigs does not seem to affect their growth, and they are disposed of about the end of November. In this way the litters have more than redeemed the cost of rearing the mothers.

FENCES.

A considerable extent of new fences have been made, chiefly hedges. Having an unlimited command of freestone at hand, stone fences would have been both the most immediately useful, and, in the end, perhaps the cheapest, but they are not so handsome as hedges, and do not afford so much shelter. On a thin and adhesive soil, it is very difficult to rear and preserve quick fences. A mixture of beeches and thorns is what has been used, but from the experience had in attempting to fill up gaps in old hedges, crabs are recommended as decidedly superior to thorns for all tenacious poor soils, and in such soils beeches will make a fence and afford shelter where no other tree will. The plants were placed from ten to twelve inches asunder. This distance is quite close enough for the purpose of a fence; and it is obvious, that the more plants that are put into a given space, the less chance there is of their thriving, especially if the ground be unfavourable. In such a situation it is very material to avoid cutting them till they have gained some strength and size; and unless where very luxuriant, they have not been brought into shape with the pruning knife till at least after three years old.

FARM ACCOUNTS.

A farmer cannot know with accuracy wherein the system pursued by him is judicious and profitable, and wherein defective, without keeping accurate accounts of his receipt and expenditure. Keeping accounts, however, is too generally neglected, though besides its economical usefulness, it would be found an additional source of interest in every operation. The account kept for this farm, though simple, is sufficiently comprehensive. It is balanced once a year, so as to shew the amount of the annual return. There is an inventory with the value of the whole stock. The amount of this inventory is the first entry on the debtor's side of the account, and it is followed by every item of expenditure during the year. The other side contains the receipts. When the account is to be closed, it is debited with the debts due by the farm, and with a per centage on the capital invested in the different kinds of stock, and it is credited with the amount of the inventory of the whole stock, as then taken—including debts due to the farm. In making up the inventory, instead of valuing anew every article of the implements and working cattle, ten per cent. is deducted from the previous value, for deterioration, and at balancing five per cent. is charged on the capital invested in live stock, in seed, and in the produce on hand. If to know the returns and expenditure in any department be required, the information is easily taken from this account, and the balance, as applicable to each year, is sufficiently accurate for use. A form of the account will be given at the end. The only other that is kept is one for the barn. In this there is a place for each kind or grain—the grain thrashed is set down on one side, and the disposal of it on the other, and, when milled, the meal is entered separately in a similar way.

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* An excellent account of this breed of cattle, and of the dairy system, will be found in a work published a few years ago by Mr. Ayton. The book is not at hand, but the title of it is believed to be "Ayton's Account of the Dairy Husbandry of the Counties of Lanark, Ayr, and Renfrew."

* Take a bushel of chaff and eight or ten sound yellow or Swedish turnips, having the tops and tails carefully taken off, and boil them together four or five hours. Add as much water as will cause the hand to move easily through the mass. Squeeze down the turnips, and add three pounds of pea-meal. Give this to a cow in the morning, and the same in the evening, and as much sweet hay as she will eat up clean five times a day, and without much expense her butter will be as rich and of as fine a flavour as can be produced in winter. Should the peculiar flavour of the turnip be detected, which is not likely, a small quantity of saltpetre put to the cream will take it off.

GENERAL CHARACTER OF THE DISTRICT AND OF ITS AGRICULTURAL OCCUPANTS.

The soil is, generally speaking, thin and tenacious, and of difficult cultivation. There are few large farms, and few of the tenants have any capital beyond what is invested in their stock. The pasture is universally occupied with dairy cattle. During the latter years of the last war, from the high price of grain, too great a proportion of the land was brought into cultivation; wheat was sown to a great extent with little manure, and the land reduced to a state from which it is, except in the vicinity of towns, extremely difficult to recover it. The tenants had afterwards to struggle between high rents and very reduced prices, which led still to a continuation of the evil, as well as to crippling their subsequent ability. The alteration in the value of money, and the distressed state of the other classes of the community, have also had their share in the difficulties of the tenants' conditions, and in the consequent injury to the land. Though landlords have, on the whole, adjusted rents as liberally as could be expected, the necessity for further abatement has been regularly progressive, and there is no reason to doubt that for seventeen years past rents have been too high. The effect of this state of things is, that if a tenant had capital, he lost it; he was unable to make the necessary outlays on his farm, and forced to scourge as far as he could. But the price of every item of agricultural produce seems now to have reached its lowest verge; and if the value of money do not increase further, and if the nation allow the land-owners to retain their monopoly, there is a prospect that rents will come to be properly and permanently adjusted; an ameliorating system of management pursued, and the soil brought to be as productive as its nature will permit. In the course of years, by less frequent cropping; by pasturing longer and stocking lightly, improvement may be accomplished. No hay should be sold, and no wheat sown where there is not an abundant command of manure. When a landlord can get a tenant of tolerable skill and integrity, it is bad policy to exact a burdensome rent from him. Farmers, especially those of little capital, are apt to offer too much for their farms: they can turn themselves to no other occupation, and are disposed more than any other class to be content with the smallest profits.

Peasantry.—The farm servants and labourers are in general in a situation of comfort. The annual wages of a married ploughman are from 12*l.* to 15*l.* in money, a house and garden, six or six and a half bolls of oat-meal of one hundred and forty pounds, and five bolls of 432 lbs. of potatoes. The people who compose the agricultural population are of the best description. They are industrious and well-disposed, and as free from vice as consistent probably with the existing state of society. The instances of their requiring parochial aid are rare, and in the parish to which this farm belongs, the whole list of poor is made up of aged and infirm persons, and widows with young children. There is no poor-rate levied in this parish. The funds for the poor are derived from the collections at the church-doors, and from a small voluntary contribution by the proprietors of land. The population is about seven hundred; the number on the poor-list last year was ten, and the sum expended on the poor 42*l.* 10*s.* The situation of the whole district in this respect is understood to be similar.

FORM OF THE FARM ACCOUNT FOR ONE YEAR.

1829.	Dr.	1829.	Cr.
Jan. 1st.	To stock at this date . .	Jan. 1st.	By debts of last year due by the farm.
	1st. Barn implements . .		(Here follow the entries of the receipts for the year.)
	2d. Field do.		
	3d. Stable do., harness, &c.		
	4th. Dairy do. .	1830.	
	5th. Work horses	Jan. 1st.	By value of stock at this date per inventory, including debts due to the farm.
	6th. Live stock		
	7th. Debts of last year due to the farm . .		
	8th. Seed sown for ensuing crops . . .		
	9th. Produce on hand . .		
	(Here follow the entries of expenditure for the year, which would include rent, if the farm were occupied by a tenant.)		
1830.			
Jan. 1st.	To debts due by the farm .		
	To 5 per cent. on the value of live stock . .		
	To 5 per cent. on value of seed		
	To 5 per cent. on value of produce on hand .		
	To balance, being profit .		
	£		£

COW PEAS.

To the Editors of the American:

Gentlemen,—Permit me through the medium of your paper, to communicate to the agriculturists of Maryland a few interesting facts.

During a recent visit to South Carolina and Georgia, my attention was directed to the *cow pea* of those States as an improving crop for our exhausted soils.

By the most careful inquiry my opportunities permitted, I ascertained that the plant would grow with great luxuriance upon the poorest land. I learned also that it had been occasionally used *as manure* with signal advantage. The results of a series of experiments by the late Hon. William Lowndes, were very striking. He planted an exhausted pine barren field near Charleston, with oats and reaped *seven* bushels to the acre. As soon as the oats were gathered, the field was ploughed up and sown with cow peas, and the vines were turned in when at their rankest growth. The following summer he reaped *fourteen* bushels of oats per acre. A repetition of the process gave him the next season *twenty-eight* bushels of oats to the acre, and a third crop of pea manure yielded over *forty* bushels.

My informant, an intelligent planter, speaking from memory, gave me the above statement, not as being fractionally correct, but a substantial approximation to the truth; and the narrative was subsequently corroborated by other gentlemen referring to the subject as to a well known transaction, concerning which no precise memoranda were at hand.

I determined accordingly to try the effects of this pea at my farm in Patapsco neck; and directed an old field to be ploughed up, which my experienced manager, Mr. James Porter, who had planted it once in rye, considered too poor to return us our seed and labour if set in wheat. A clover crop from it he pronounced out of the question without heavy manuring.

The peas were sown broadcast, about the 5th of May, at the rate of one bushel to the acre, and harrowed in. For about ten days the ground was so dry that they did not vegetate. At length a slight shower sprouted them, and about the first of June I saw the two first leaves contracted by the heat and folded upwards like the wings of a butterfly; the drought being severe. At this time however I became assured of the self-preserving properties of the plant, for it had pierced the earth with a vigorous and succulent *tap root* two inches long, and laterals in proportion. The season becoming more propitious, I astonished my friends, from time to time, with the exuberant specimens I brought to town.

Revisiting the farm yesterday, after an absence of about a month at the Springs, I found the ploughmen, with double and three horse teams, engaged (rather prematurely as I think) in turning the vines into the earth, which they effected in fine style but with some trouble.

The horses stood, in some places, literally half body deep among the vines, and the labourers, though not in the best of humour, declared they had never ploughed in a clover crop which could compare with them in luxuriance. One vine which I brought to town as a specimen, and which was not much above the average growth, measured over seven feet in length, the main stem was nearly of the thickness of a man's little finger, and had branched into more divisions and redivisions than I cared to count, all covered with broad substantial leaves.

This result seems conclusive of the luxuriant growth of the cow pea on our meagre lands. What the soil will produce thus enriched is still only conjecture, but I shall feel warranted to plant as much of my poorest land with cow peas, as can be spared next year from the current husbandry of the farm. I regret not having left an acre of the field unplanted, this summer, with a view to a comparative estimate of the value of the peas.

I have thus far considered the cow pea only as a green crop for manure, but I am confident it will be found valuable in other respects.

1st. As fall pasture for hogs, my vines though matted together and mingled with weeds, and therefore in a condition least favourable to productiveness, are now full of *pods* in various stages of ripeness, which my hogs ought to have gathered before the ploughs were turned in.

I collected 20 pods, as an experiment, without moving my feet from the spot where the idea occurred to me, and there were probably many more concealed by the foliage, as my search was not very close. These peas are highly nutritious. When boiled they are considered the best food for milch cows, whence their name. But they are also when dried used extensively for provisions on Southern plantations, and in the green state are even admitted to the tables of the rich. The pods are generally 6 or 8 inches long and full of peas.

2d. As fodder for cattle the vines are equal to any thing known. A gentleman from Charleston informed me, a few weeks since, that he once cut off the vines of a field of peas just above where they branch from the stem; and that his cattle preferred them when dried to corn blades, while the stems shot out anew and yielded a heavy crop of peas. This, however, must have been on *strong* or, at least, *fresh* land.—The vines when green are excellent for "*soiling*."

Nothing can be simpler than the mode of cultivating this valuable plant. I have already described the manner in which it is planted for an improving crop; concerning which but one remark is necessary; care must be taken to avoid the late frosts, as the cow pea is exceedingly tender, and the slightest frost destroys it entirely. But, on the other hand, it is desirable to give it the benefit of the early rains, that it may shade the ground before the hot weather sets in.

If provision or seed is wanted, the best course is to throw from 8 to 12 grains into each hill when the corn is "*laid by*" for harvest. The peas immediately run up the corn, and, without interfering with it, bear, on good land, from 20 to 30 bushels per acre. Another method is to plant, at the same late season, in long beds formed by listing with the plough, about 2 feet apart. In this case the pea does not run to vine but branches out and bears without support. This, however, requires cultivation with the hoe, to keep down grass and weeds, and is unsuited to our labour saving system.

Anxious to see this subject thoroughly investigated by our farmers, I have extended these remarks much beyond the limits, I originally contemplated. I have only to add that seed may be obtained in any quantity at Charleston, and the ports of North Carolina and Virginia, especially early in the winter. The usual price is about 50 cents per bushel. Mine cost at retail, but 62½ cents; and the freight was 10 cents more. If our dealers in seed could import a few hundred bushels it would probably prove a good speculation.

Your ob't serv't

William G. Read.

Baltimore, Aug. 16th, 1831.

HORTICULTURE.

THE PEACH.

Natural Order.—*Rosaceæ,* resembling the rose in flowers and medicinal properties, being refrigerant, tonic and astringent. Class—*Icosandria,* having about twenty stamens situated on the calyx. Order—*Monogynia,* having but one pistil. Genus—*Persica,* comprising peaches.

All the ancient authors agree that the peach tree is a native of Persia; and it appears that the fruit was thought to be of a poisonous nature. It is evident there had been traditionary tales of this fruit having been sent into Egypt to poison the inhabitants. Columella says in his tenth book:

> "And apples which most barbarous Persia sent,
> With native poison armed (as fame relates:)
> But now they've lost their power to kill, and yield
> Ambrosian juice, and have forgot to hurt;
> And of their country still retain the name."

Pliny relates that they had been stated to have possessed venomous qualities, and that this fruit was sent into Egypt by the kings of Persia, by way of revenge to plague the natives; but he treats this story as a mere fable, adding, that the name of *Persica* evidently bespeaks them a Persian fruit. Cato has not mentioned them; and Pliny adds, that it was not long since peaches were known in Rome, and there was great difficulty in rearing them. He informs us they were brought from Egypt to the island of Rhodes, where they could never be made to produce fruit; and from thence to Italy. He says, moreover, that it was not a common fruit in Greece or in Natolia. This author states again, that he considered it the most harmless fruit in the world, that it had the most juice with the least smell of any fruit, and yet caused thirst to those who ate of it.

Peaches were evidently cultivated in France at an early period, and Columella continues, in his account of this fruit by stating—

> "Those of small size to ripen make great haste;
> Such as great Gaul bestows, observes due time
> And seasons, not too early nor too late."

Pliny says, "as for the French and the Asiatic, they bear the name of the regions and nations from whence they came."

It is stated that the peach tree was not cultivated in England before the year 1562; and by whom it was introduced, or from what country it was produced we have no authentic account; although Gerard wrote his work soon after, which was published in 1597 wherein he describes the white peach, the red peach, the yellow peach, and the d'avant peach, and adds, "I have them all in my garden, with many other sorts."

Of this delicious melting fruit, we have a great variety, from the small nutmeg peach which ripens in August, to the Hyslop's fine late peach which ripens in November. The peach has been almost equally multiplied in its variety with the apple, by sowing the stones, and by the ingenious method of impregnating the blossoms. Mr. Knight, alluded to in our last number, has procured a new peach by this operation; he impregnated the pistil of the blossom of an almond tree, with the pollen of a peach flower; and this almond when planted, produced a peach tree instead of one of its own kind, and has since ripened peaches.

The following list of peaches, with the time of ripening, is taken from the catalogue of J. Bloodgood & Co. of Flushing, edition 1831.—*Ed. N. Y. Farmer.*

Those marked thus *a* are more esteemed for their flavor, and those thus † for their size. C. denotes cling-stones.

Those which ripen in July are, 1 Scarlet Nutmeg, 2 Yellow Nutmeg, 3 nRed Nutmeg, 4 *a*White Nutmeg *or early Avant,* 5 *a*Green Nutmeg, *or early Ann;* July and August, 6 *a*Sweet Water.

In August are, 7 *†Red Rare Ripe, *or early French,* 8 †Alberge, *or yellow Rare Ripe,* 9 *a*White Rare Ripe, 10 White Magdalen, 11 *a*†Large Early Red, *or Early York,* 12 *a*Early Red, C. 13 *a*Necton, 14 Lafayette Red, C.

In August and September, 15 *a*Brainard's Yellow, *very fine,* 16 *a*†Gross Mignonne, 17 New Cut-leaved, 18 Petit Mignonne, 19 *a*Selby's fine White, C. 20 *a*Hewlett's Large Red, C. 21 *a*Orange Peach, 22 *a*†Flushing Peach, 23 Maria Antoinette, 24 Bloodgood's Late Green, 25 *a*Royal Kensington, 26 *a*Teton D'Venus, 27 White Malecaton, 28 George the Fourth, 29 *a*Mammoth, 30 *a*O'Brien's Large Red, C. *fine,* 31 *a*Rhode's *fine,* C. 32 *a*Astor's, 33 Vanguard, 34 Red Velvet, 35*a*†Late Red Rare Ripe, 36 *a*†Bergen's *fine yellow,* 37 *a*†Rodman's Red, C. 38 *a*†Yellow or Red Cheeked Malecaton, 39 *a*Swalsh, 40 *a*†Oldmixon, 41 *a*†Oldmixon, C.

In September, 42 Pine Apple, C. 43 *a*Red Magdalen, 44 *a*Colombia, 45 Hill's Madeira, 46 New Newington, C. 47 *a*†Old Newington, C. 48 *a*Bourdine, 49 White Blossom, 50 *a*Millett's Mignonne, 51 La Royal, 52 *a*Orange C. 53 *a*†Green Catherine, *or Doctor Cooper,* 54 Double Rose Flowering, *ornamental,* 55 Freestone Heath, 56 *a*†Late Admirable, C. 57 *a*†Nalta, 58 Morris White, 59 *a*Brevoort's Morris, 60 *a*Noblesse, 61 *a*†Lemon Peach, 62 *a*†Kennedy's Carolina, *Early Lemon,* C. 63 *a*†York Island's Peach, 64 *a*†Admirable, *excelled by none.* 65 *a*†Congress, C. *fine,* 66 *a*President, 67 Pavi Royal, 68 *a*†Pavi Admirable, *very fine,* 69 White Stone, 70 †Lemon, C. *late large Lemon,* C. 71 †Blood, *or Claret,* C. 72 *a*Late Gallande, *or Bellegarde,* 73 *a*White, C. 74 Scarlet Pine Apple, C.

In September and October, 85 *a*Selby's Late C. 76 *a*†Algiers, *fine yellow,* C. 77 Blood Peach, 78 *a*†White October, C. 79 Milford Peach, *good for preserves,* 80 Winter Green, C. *for preserves,* 81 †October Yellow, C. 82 Powel's Late Yellow, 83 *a*†Heath, C. *must be kept in cultivated ground, fruit excellent,* *a*†Pompone, C.

It has been frequently remarked, that the finest flavored peaches have been gathered from trees of the greatest age. Peach trees have been known to attain the age of fifty or sixty years, yielding an ample crop, when younger ones fail.

Peach trees grow in abundance on the Mississippi, particularly in Louisiana. As the latitude of that place is the same as that part of Asia of which these trees are the natural production, there can be no doubt but they are indigenous to Louisiana, as well as to Persia; although in this section of the United States the peach is regarded as a foreign fruit, it having been introduced from Europe before Louisiana had been explored.

This fruit is cultivated with such success in many parts of the Union—Virginia and Pennsylvania in particular—that it is not uncommon to see orchards containing one thousand standard peach trees, which are so productive that the fruit is used to fatten swine: from a single orchard have been procured, after the pulp is fermented and distilled, one hundred barrels of peach brandy.

The best peaches of every kind are red on the side next the sun, and of a yellowish cast towards the wall, the pulp should also be of a yellowish tint, and juicy: the skin thin, and the stone small. To have them in perfection, they should not be gathered until they will fall into the hand by the slightest touch of the finger.

This is one of the fruits in particular which is recommended to be eaten in the morning, in preference to the usual time of desert. Brook says, "peaches agree well with persons of hot constitutions and costive habits, especially if they be eaten in a morning fasting."

The flowers of a peach tree are used in medicine; when made into syrup they are given as an aperient to children, and are recommended as a great destroyer of worms.

It should be observed not to get the flowers from those peach trees that have been grafted upon almond stocks, as the flowers partake of the property of the stock, which greatly alters their virtue.

The young leaves are used by cooks to flavor blanc-mange custard, puddings, &c.: and a liquor resembling *noyau* is made by steeping peach leaves in white brandy, and when sweetened with sugar candy, and fined with milk, it is difficult to distinguish it from the flavored cordial of Martinique.

From the wood of the peach tree the color called rose pink is procured.

October is the best time for winter pruning, when, with little attention the blossom buds will be known from the wood buds; the latter being less turgid, longer and narrower than the blossom buds. In shortening the branches, observe to leave a wood bud at the end instead of a fruit bud. Care should be taken to nip off the ends of the strong shoots in the month of May or June, which will cause them to throw out new boughs in every part of the tree, as it produces its fruits from the young wood, either of the same, or at the most of the former year's shoots.

Peach trees are often injured by a desire to retain too full a crop on the branches, which not only prevents the present fruit from coming to maturity, but by exhausting the tree, prevents its fruiting in future years. When the peach has attained the size of a small gooseberry, the trees should be carefully thinned, leaving the fruit not nearer than from four to six inches to each other.—*Naturalist.*

Anniversary Exhibition of the New York Horticultural Society.

The annual floral and pomonal exhibition took place on the 7th inst., at Niblo's. In addition to the trees, shrubbery, and green-house plants belonging to the garden, its beauty and attractions were heightened by the addition of many choice and splendid cut flowers, and plants in pots, from the gardens of florists and amateurs of the city and its vicinity.

These were arranged in various parts of the garden, but the fruit was displayed in a large marquee in the form of an amphitheatre shaded by an awning terminating in a peak, directly under which, in the centre of the marquee, was a high pyramid of flowers, supported on a base loaded with fruit.

The display of fruit was luxoriantly rich—the variety great, and the quality superior to any former exhibition. The peaches, particularly from the gardens and orchards of two or three gentlemen, surpassed in flavor, size and beauty, the general conceptions entertained of the culture of the fruit in this section of our country. The grapes too, afforded a pleasing proof that this inestimable fruit is rapidly improving, and will not only be acclimated, but find a genial clime and soil in our country. The day was fine affording an opportunity for several thousands of citizens and strangers to see one of the richest and most beautiful displays of nature.

In the next number, we will give more particulars of the exhibition.—*N. Y. Farmer.*

LONG LIFE OF SCIONS.

Pro. J. W. Van Mons, in writing to Gen. Dearborn, mentions the following remarkable fact:—"I should remind you, that some scions, which were sent me from New York, by my elevè Gerard, were two years and a half on the way, still I grafted them, by copulation, upon adult trees one on each branch, and not any of them failed. It was in the middle of September. A scion is never too old, or rather too dry, not to succeed, provided it has been cut from a living tree, or from one that has not perished by a natural death. Artificial death, such as that occasioned by deplantation, does not injure, in the least, the excellence of the scion."

ENLARGED FRUIT,

One of the most pleasing and remarkable experiments made in horticulture, is that of Pro. Poiteau, in the production of enlarged peaches. He made an incision around the limb of a peach tree, which, as has long been known, will make the fruit larger. He took a bud from this branch and inoculated another tree. The consequence is that the fruit is of the same enlarged size as that of the experimented branch.

DESTRUCTION OF INSECTS.

Mr. Fessenden,—Now is the time to destroy caterpillars. The eggs, from which they are produced, are now to be found in bunches on the twigs of fruit trees. By taking off those bunches the vermin are destroyed in the egg. The color of the bunches is now so much darker than the bark of the twig, that they are easily found; it will, by degrees, become lighter, until it will be very near the color of the bark. The eggs are laid in July. They remain, where laid, unaffected by change of weather, by frost or heat, until spring, when they are hatched by the flowing of the sap, and vegetative power of the twig. Each bunch of eggs will produce a swarm of caterpillars that will have a nest by themselves. The nest is usually built on the branch that bore the twig on which the eggs were laid. As caterpillars have no disposition to leave the tree, on which they were hatched, until the time when they leave their nest and separate to come together no more, it is very easy to keep small trees free from their nests, by destroying the eggs.—*N. E. Farmer.*

MISCELLANEOUS.

Description and Productions of the Mineral Country of the Upper Mississippi.

The following is from a letter, written by Caleb Atwater, Esq. who was connected with the agency for making the Indian treaties ratified by the Senate last winter.

Washington, Jan. 1, 1831.

The treaties with certain Indian tribes, for the cession of the mineral country on the Upper Mississippi, are ratified by the unanimous consent of the Senate.

By these treaties the United States have acquired 8,000,000 acres of land, equal in all respects to any in the Union. The climate of this region is equal to that of Italy, such is the purity of the air. When travelling along the road to Galena, on Fever river, I could distinctly see a wagon and team five miles off, with the naked eye. This purity of atmosphere may be attributed to the total absence of marshy ground and to the elevation of the country, which, after leaving the Wisconsin and Mississippi rivers, and ascending to the common level of the country, is by my computation, about 2,000 feet above the sea. The absence of dense forests all the way to the Rocky Mountains and to the Frozen Ocean—to which it may be added, that the mineral country is beyond the influence of the great northern lakes—may, in part, account for the purity of the atmosphere.

The streams of this region, copiously and briskly gliding over pebbles of cornelian, topaz, jasper, agate, opal and quartz, are as pure as chrystal. Originating in springs, they are cool enough for drinking in the hottest day in August. The Mississippi from Rock Island to the mouth of the Wisconsin a distance of 200 miles and upwards, and which forms the Western boundary of the ceded territory, is on an average, about three-fourths of a mile in width. The fish are abundant, of fine flavor, and furnish food for the Indians on the western shore of that beautiful river.

The Wisconsin is about half a mile in width, and at a low stage of water, is shallow, and full of sandbars. When I ascended it about 90 miles from its mouth, It presented to view, far as the eye could trace, wild rice in bloom. The scenery along its borders exhibited views most impressive, and always either beautiful or sublime.

Rock river and its branches irrigate and fertilize a large tract of country. This river originating in pellucid lakes and copious springs, runs off gradually, and neither rises very high nor sinks very low during the year. Ninety miles above its mouth, where I crossed it on the first day of last September, it appeared to be about twenty rods wide, four feet deep, and ran with rapidity. The branches of this river, the Picatolica, Sugar creek, &c. are the finest streams for mills of every kind in the world. The sands of Wisconsin are as white as mountain snow.

The surface of the country is gently undulating, and, in most places, is covered with grass and a succession of flowers from early spring to late autumn. One week you see as far as the delighted eye can reach, flowers of a reddish hue;—the blue, the white, the yellow, every shade indeed, follow in succession week after week—ever varying, ever new, and always delightful.

The trees of this region are confined to the banks of the water courses, and to rough places; and oaks, red, white and black, are the most common growth in high grounds, while in wet ones, the botany is richer.

The mounds are lofty piles of rocks, in their natural position, except such as have fallen downwards from their summits. These piles lying in horizontal strata, are very elevated, and may be seen in any direction.

I have already mentioned the most common birds of this region, and the beasts are few indeed now, having been destroyed by the Indians, except the black wolf, the prairie wolf and musk rat. The black wolf, too numerous I fear for sheep at present, is confined to the groves and the streams. The prairie wolf is more common than any other animal in this district of country. Apparently half way between the black wolf and grey fox, he is the Jackall of America. Not over nice about his food, he eats every thing almost within his reach; insects of every kind, grasses and birds, their eggs, and pigs and poultry, please his taste and satisfy his appetite. From Prairie du Chien to Peoria lake, a distance of 400 miles as I travelled the route, every night when I lodged out of a settlement, I was assailed with the shrill barking of this animal: he approached within a few feet of me, and roused me from my slumbers. He is, without exception, the most mischievous little animal in the world—robbing hen roosts, pig styes, farm yards and barns wherever they exist.

The musk rat is confined to the lakes and streams, and I have a beautiful drawing of one taken in that country, by an artist residing at Gratiot's Grove.

Having briefly described what appears on the surface of the earth, I will, as briefly, describe what is below it. This region contains the richest lead mines in the known world. You are aware, sir, that altho' these mines have been worked only about three years, by comparatively few persons, under every possible disadvantage, almost thirty millions of pounds of lead have been made there! The mineral used by the miners is a sulphuret of lead yielding from 56 to 87 per cent. of pure lead. It is found in veins invariably running from north to south, or from east to west. There is one vein twenty rods long and sixty feet wide, and extending downwards to an unknown depth, filled with ore that is nearly pure lead.

The lead ore occupies about 100 miles square of surface, except about 20 miles by 4 or 5 of copper ore, included with the aforesaid 100 miles square. Thirty millions of pounds of lead have been made in the mineral region, and from what I saw, I should suppose that not one mile square of surface had been opened for ore! and further, I can say, that without opening one new mine, thirty millions pounds more of lead might be made there. And I can further say, without any doubt of the fact, that the country now ours by the late treaties, will forever afford lead enough for this nation at as low a rate as can be desired. I will not descant upon the advantages in peace and in war, to be derived from these mines. I leave that subject to the statesman, the merchant, the manufacturer and the patriot.

A strip of land, 20 miles by 4 or 5 miles, Is filled with a sulphuret of copper, 170 tons of which had been dug before I left that region, on the 1st of September last. Not having been melted, its value is not tested, though its appearance indicates a rich copper ore.

The soil of this region is a rich, deep, black loam, and reminded me of the Hermitage, on the banks of the Cumberland; of the central parts of Kentucky; of Pickaway Plains, near me, on the delightful banks of the slow-winding Sciota; and of the Miami country in Ohio. Indian corn, potatoes, oats, all the garden vegetables; indeed every tree, plant and shrub which grows in the same latitude, flourishes surprisingly.

The climate is the healthiest in the world, and I saw no person in that country not in high health, except such as worked in the furnaces, the smoke of which is injurious to health.

These treaties have given, or rather will soon give to this Union, another great and flourishing state, larger in size than Virginia, because surrounded as the Indians soon will be of that region, they will retire beyond the Wisconsin: but a few years will pass away before they will cross the Mississippi, where the elk, the deer, the bison, the otter and the beaver invite them.

On the upper Mississippi will soon exist three states, each larger than Virginia. These three states will within fifty years contain three millions of happy human beings. Two of these will lie on the western and one on the eastern side of the Mississippi.

Elephants are now used in Ceylon for ploughing the rice fields and in preparing new grounds for the cultivation of coffee, pepper, &c. An elephant will perform the work in one day which twenty bullocks were in the habit of performing before. In a country like Ceylon, which is so very thinly populated, by this system of employing elephants, much time is saved, and a great deal of agricultural work performed. An elephant may be purchased in Ceylon at any time for ten or fifteen pounds.

Injustice, if it is speedy, is sometimes more desirable than justice, if it is slow.

THE FARMER.

Baltimore, Friday, Sept. 16, 1831.

Aracacha.—The following letter from Mr. Lowell to the president of the Massachusetts Horticultural Society, gives the result of an experiment with a part of the aracacha roots sent by the Editor of the American Farmer to that Society. It is possible that this failure may be properly attributed to too much moisture, but our experience does not authorise such a conclusion. We have aracacha in four very different situations, one of them (a low wet bottom) has frequently been entirely inundated so that the plants were covered with water for 24 hours at a time; another a forcing frame with the glasses removed, which is always quite dry and hot from the remains of the old hot-bed; the third in a permanent shade on the south side of a board fence; and the fourth on the north side of a board fence which protects the plants from the sun from 9 A. M. to 3 or 4 o'clock, P. M. and of course from all southerly rains. In all these situations more or less of the aracacha has died, from different causes. About half of that in the wet bottom was destroyed by moles in dry times, as they were always detected just after making their way through them, by the wilting of the foliage; that in the forcing frame appears to have suffered from excessive heat, as well as from moles; that in the permanent shade is injured apparently from the same cause, but this not so clearly ascertained; and that on the north side of the fence has as yet suffered but little, only 5 roots, out of about 80 having died. None of the old roots we have yet examined have grown much; but all have formed a large quantity of offsets, from which we hope to succeed another year. The seed which had formed on some of the plants was cast prematurely, so that there is no hope from this source at present. Notwithstanding the prospect of success is very much diminished we have great hope of succeeding better next year, and still more as the plants become acclimated. It must be borne in mind, that success scarcely ever attends the first planting of exotic vegetables. We are compelled to differ with Mr. Lowell in the supposition that aracacha is as much out of place in this climate as the pine apple. It is well known that the potato is a tropical plant—and that it is now cultivated to the greatest perfection in the extreme northern parts of the United States. The reason of this probably is, that it requires but from 90 to 120 days for the perfection of its roots, and any climate capable of affording a growing season of that duration is well adapted to it, and probably much better than one in which the middle of that season is usually attended by intense heat and parching droughts. The aracacha requires but six months to mature its roots, and consequently if no other impediment be met with in our soil or climate, it will generally succeed, at least in the middle states, where we can generally calculate on at least six months growing season. We therefore do not despair of ultimate success, though we may be obliged to nurse our favorite a year or two longer than was expected before we can realise our fondest expectations. We have also an unfavorable report from the parcel we presented to a friend in Charleston, South Carolina—Mr. Legare, the editor of the Southern Agriculturist. It appears that some of his plants have died, as he thinks from the effects of the hot weather, as he says he has five promising plants left, which, as the hot weather is nearly over, he hopes to preserve, and thinks they will do better next year.

Hon. Henry A. S. Dearborn,

Pres. of the Mass. Hort. Soc.

Dear Sir,—As the Society, of which you are the head, entrusted to my care three plants of the aracacha root, which is found so useful in the countries of which it is a native, I feel bound to state my own experiments on its culture. As Mr. Floyd of N. York attributed his ill success to the want of *shade*, I put one of my plants in the shade and two in an exposed situation. The soil was admirable, my attention as great as possible, not a day passed without a visit from me.

Their growth was rapid and vigorous, every indication of health led us to hope full success, but when the heavy rains came on early in this month, they all three perished in succession, without the slightest appearance of injury from insects. What killed them is the true question. Not defect of heat—for from the 28th of May to this day we have had by day and night at least tropical heat. Many countries within the tropics have not as great or as uniform heat. What was the cause of their death? I believe too great moisture. The countries in which this plant thrives are dry, much drier than ours. Though these plants were as vigorous as the beet and parsnip, yet their roots were not enlarged. One of them however threw out tubers from the top of the roots; these I shall preserve. I can by no means be satisfied that planting the tops of the old roots is the best mode of propagation. On the whole I am constrained to say that I fear the aracacha is a plant as much placed out of the useful class of vegetables in this climate as the pine apple is as a fruit.

I am, dear sir, respectfully, your humble servant,

John Lowell.

N. B. It would seem probable, that Gideon B. Smith, Esq. the intelligent and active Editor of the American Farmer, would succeed in ripening the seeds of the aracacha. It is possible that it may do better from seed and it is even probable that from seed raised in Baltimore more healthy plants may be grown. It is almost incredible what perseverance has done towards acclimating both plants and animals.

Permit me to add one further remark which I think of the highest importance. When gentlemen of the Navy and other friends to the horticulture of the country bring us seeds and roots, it is not only important but essential that they should accompany them with statements of the soil in which they flourish and the treatment or culture which they receive.

In the defect of this we may be administering to them their poison instead of their aliment. What should we make of the rice plant or of the Taro root of the Sandwich Islands if we denied the water so essential to their growth? J. Lowell.

Roxbury, Aug. 20, 1831.

Gama Grass.—Our friends will learn with regret, as we do, from the following letter, that our efforts to obtain seed of the Gama grass, have been unsuccessful, at least for the present year. Indeed we could hardly have expected a different result, when we consider the great number of applications which must have been induced by the publications on the subject, and the limited quantity raised. We beg our friends to be assured that whenever we do obtain any of this valuable seed they shall be supplied as far as possible.

The blade of Gama grass (of 12 days growth) inclosed in the letter measures 32½ inches in length.

Grovehill, Clarke Co. Alabama,
August 22, 1831.

Mr. Smith:

It would have afforded me much gratification to have been able to forward you the quantity of the *Gama* grass seed you request, but the *ten thousand* pressing applications *last* year, and this, had compelled an early division of the seed I had saved. I neglected to mention that it is a plant so hardy as to bear being taken up at the end of the *first* year, *divided*, and each division, with the smallest particle of root, will grow off with vigor. This circumstance adds to the facility with which it can be propagated.

For the last eight weeks I have fairly tested its value in the production of *milk* and *butter*. I cut at *fifteen* days growth, when it exhibits peculiar delicacy, and fed two *cows*, and perfectly in recollection of the fine *butter* of the Philadelphia *Jersey* market, I am assured it exceeds for *delicacy* the production of the *clover pastures*, and fully equal in that *richness*, peculiar to the fine butter of that market house. This I had previously been informed would be found the case, by a Spanish gentleman familiar with our northern productions, and also with the grass. The same gentleman, a *native* of those provinces of South America, in which it abounds, and where it is so highly valued, had also suggested to me its *extraordinary nutritive* properties in the *support* of the *horse*, *mule*, and *ox*, and which induced me to apply the only safe test, viz. a fair trial. For the *burning, feverish* and costive food, viz. *corn* and *fodder*, as *common* as *irrational*, so universally given to those animals in the *hot ploughing* season of crop time, I substituted a feed composed of *equal quantities* of this grass, at 3½ feet high, and oats in the sheaf, both *cut* up in a *cutting* box, a moderate quantity of *Indian meal* added; the effect was as palpable as agreeable to my feelings, and I feel assured that it will be found one of the most *economical*, as also *nutritive* and *wholesome* modes of supporting those animals, so useful in agricultural labours. I have always *doubted* and *regretted*, the policy of that theory in the management of those animals when laboring, which denies them that, which is to them such a *luxury*, viz. *green food*—and I have always equally feared that it was either our ignorance of the proper *kind* of *vegetable* matter, or the *mode* of *combining* it, that made it *necessary* to deny them, what heaven had so peculiarly prepared for them.

I beg leave to add, that it will be a pleasure to meet your request the *next* season, if it will be useful to you—at present permit me to say, the respect with which I am, sir, your obedient servant,

James Magoffin.

P. S. You will find enclosed a blade of Gama grass, the growth of 12 days.

New York Cattle Market, Monday Sept. 5.

We had from 500 to 600 head of cattle—price from $5 to 6½ per hundred. The sale tolerably brisk at the above prices.

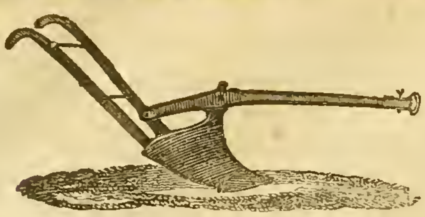
Sheep and Lambs.—A pretty good supply and ready sale. The former from $2 to $5, and the latter from $1.50 to 2.50 each. Yet, a considerable number of the *old sheep* being in a store or stock condition—were purchased by graziers of Dutchess and other counties, to be taken and fattened on these rich soils.

CORNSTALKS.

One of the most palatable kinds of food for horses and cows, is cornstalks, if well cured. Most farmers are very particular in curing hay, but many of them are extremely careless with their stalks, forgetting that if they are badly cured, they are not only less palatable, but less nourishing, and consequently inattention in this respect, is bad husbandry. Many a farmer, by properly curing his stalks, could have had in the spring, a few hundred of hay to sell instead of to buy.—*N. Y. Farmer.*

Prices Current in New York, Sept. 8.

Beeswax, yellow 19 a 21. *Cotton*, New Orleans .10 a .12; Upland, .7½ a .10; Alabama, .8 a 11½. *Cotton Bagging*, Hemp, yd. 18 a 20; Flax 12½ a 17; *Flax*, American, 7 a 8.——*Flaxseed*, 7 bush. clean .—— a .—— *Flour*, N. York, bbl. 5.12 a 5.25; Canal, 5.34 a 5.62; Balt. Hwd.st. 5.87 a 6.00; Rh'd. city mills—— a —— country, 5.00 a 5.75; Alexand'a, 5.00 a 5.75; Fredericksburg —— a 5.50; Petersg. 5.75 a ——; Rye Flour, 3.75 a 3.87; Indian Meal, per bbl. 3.75 a ——; per hhd. 17.00 a 17.50; *Grain*, Wheat, North, 1.00 a 1.08; Vir. 1.10 a 1.13; Rye, North, 80 a —; Corn, Yel. Nor. 74 a 75; Barley, 80 a —; Oats, South and North, .34 a .40; Peas, white, dry, 7 bu. 5. Beans, 7 bu. 7.00 a 8.00.



SINCLAIR & MOORE,

Pratt Street Wharf, Baltimore,

Offer for sale a stock of their Improved PLOUGHS, of sizes from heavy three horse to the six inch seeding Plough. Price of the latter $4.50, a superior article.

ALSO

Self-Sharpening Ploughs, of sizes
McCormick's Patent do. do.
Wood's Patent or Freeborn do.
Barshear do.

Hill side, Double Mould Board and Double Shovel Ploughs, Harrows, Cultivators, Hay and Manure Forks, Shovels, Spades, Cast Steel Axes, Trace Chains, Hay Knives, &c. &c.

CYLINDRICAL STRAW CUTTERS, this excellent article has heretofore been sold at from $75 to $45, we can now furnish our smallest size, being on a reduced scale at $27—this size will cut within about 25 per cent. as fast as the size at $45. Also on sale the Circular Knife, Self Feeding Box, Common Treadle, and other low priced Straw Cutters.

THRESHING MACHINES, we are prepared to offer such kinds as are durable and thresh fast, adapted to the power of three horses, of the improved Tooth Machine, we have as yet made only three, one of which sent to a distance and not yet heard from, the other two spoken of by the purchasers as follows.

Extract. "The threshing machine fully equals my expectation. I believe that in dry wheat of short straw two hundred bushels per day may be threshed with ease. (Signed) PEREGRINE WETHERED."

The above was written after threshing 1400 bushels of wheat from very long straw.

"Messrs. Sinclair & Moore,

Gentlemen,—I take pleasure in stating that your threshing machine put up by Mr. Johnson, threshes entirely to my satisfaction, with requisite attendance and proper attention I believe it will thresh twenty bushels the hour, I think the machine recommends itself by its simplicity and the facility with which it may be repaired. Yours, &c. LENOX BIRCKHEAD.

Sept. 9, 1831.

This machine is furnished at $75. Horse power to propel it $75.

Also for sale a constant supply of Improved WHEAT FANS, CORN SHELLERS, Garden and Field Seeds, Fruit Trees, &c.

Sept. 16.

DURHAM SHORT HORNS.

The subscriber is authorised to sell two full blooded improved Durham Short Horn Heifers, one year old—price $100 each. Also,

Two Bull calves half improved Durham Short Horn and half Devon, about three months old, price $50 each. Also,

Two half blooded Devon Bulls, two years old last spring—price $50 each.

The above are all fine animals, and are considered cheap.

GIDEON B. SMITH,
Office Amer. Farmer.

GARDEN SEEDS.

The subscriber has a full assortment of garden seeds, a great part of which are of his own growing, and he can therefore speak with certainty of their quality. Besides those in common use, he has several new kinds of extraordinary quality, which he has taken the precaution to test by raising them in his own grounds, and giving them a trial on his own table, before offering them for sale. He would particularly mention the London Horticultural and Asparagus beans, which are superior to any thing of the kind before in use.

GIDEON B. SMITH.
Office Amer. Farmer.

TALL MEADOW OAT GRASS.

100 bushels of tall meadow oat grass seed of the present season's growth, just received and for sale by the subscriber. The excellence of this grass as a very early and late pasture, and for mixing with clover and Lucerne was fully tested by the late Mr. Taylor of Virginia, and by Mr. Lowell of Massachusetts, as well as several other highly respectable farmers. Price by retail $2.75 per bushel—a liberal discount made to dealers.

GIDEON B. SMITH,
Office American Farmer.

ELKWOOD ESTATE.

To be sold, that well known, and highly valuable estate in the county of Culpeper, Virginia, about 30 miles from Fredericksburg, late the property of Mr. Carter Beverly, and afterwards of Mr. John S. Thornton, but now in the occupancy of Mr. John Browning, who is going to England. The estate is so well known for the fertility of its soil, and the beauty of its situation, that a particular description is unnecessary. The mansion house is in excellent repair, and is happily placed on a gentle eminence in the centre of the property. It is bounded on the east, northeast, north, and northwest, by the river Rappahanock, on the banks of which lie near 700 acres of fertile land, the most part river bottom, at present in the highest state of cultivation, and covered with luxuriant crops of clover. The surrounding uplands produce excellent wheat, rye, and oats, and there is a sufficient body of wood to maintain the fences. It has likewise the singular advantage of a small stream passing through it, which never fails; so that all the fields are well watered, and there is a capital mill site on which formerly stood a merchant mill, and saw mill. The farm building, barn, cornhouse, overseer's house, negro quarters, &c. are at a convenient distance from the mansion house, and afford the most ample accommodation.

The property will be sold by public auction in June next, 1832, altogether or in lots, as may suit the purchasers, should it not be disposed of in the mean time by private contract, and ample time will be allowed for the payment of the purchase money. It is presumed an estate so well calculated for the residence of a gentleman, on account of the beauty of its situation, and substantial improvements, cannot be found in Virginia. It is estimated to contain about 1331 acres, and is remarkable for the salubrity of its air, and the absence of marsh and stagnant waters. Letters, post paid, may be addressed to the proprietor, at the post office, Stevensburg, Culpeper county, Virginia, and the premises may be viewed at any time.

August 19.

ORCHARD GRASS SEED WANTED.

WANTED IMMEDIATELY by the subscriber, a few hundred bushels of Orchard Grass SEED of this year's growth, and free from noxious seeds, for which cash will be paid on delivery. Who has on hand his usual supply of Agricultural Implements, such as superior Ploughs, Wheat Fans, Cultivators, Harrows, his patent cylindrical Straw Cutter, superior Rag Cutters for paper making, Dutch Cutting Boxes, Scythes, Hay and Manure Forks, Hoes, Brown's vertical Wool Spinners, Wire Safes, and Wove Wire, &c. &c.

Also a general assortment of the Messrs. Landreth's Garden Seeds, for sale, and will furnish fruit and ornamental TREES from their nursery to order.

On hand, Clover, Timothy and Herd's Grass Seed.

And likewise keeps a general assortment of Grass Seeds for sale, of such as can be depended on.

J. S. EASTMAN,
Sept. 9. No. 36, West Pratt street.

WOOL WAREHOUSE.

LYMAN REED,

Commission Merchant, No. 195 *Baltimore street,*

Devotes particular attention to the sale of WOOL. Any consignments of the article forwarded to him for sale, can be disposed of immediately for CASH, at the highest market price.

CASH, and a fair price, will be paid for a few thousand pounds of *good wool,* (if offered immediately,) to supply orders now on hand.

Refer to Messrs. Cobb, Wyman & Co. Baltimore.

BALTIMORE PRICES CURRENT.

Baltimore Market.--The changes in the Baltimore market are inconsiderable. There is a trifling decline in wheat and other grain owing to the increased supply. The wagon price of Howard street flour is $5.50, the supply continuing very limited. The prospect of an abundant crop of corn has depressed the price, and it is expected the article will go down rapidly. In beef there is no change—the supply being about equal to the consumption.

Tobacco.--Seconds, as in quality, 3.00 a 5.00; do. ground leaf, 5.00 a 9.00.—Crop, common, 3 00 a 5.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 10.00; yellow and red, 8.00 a 14.00; yellow, 14.00 a 16.00.—Fine yellow, 16.00 a 20.00.—Virginia, 4.00 a 5.00.—Rappahannock, 3.00 a 4.00——Kentucky, 3.50 a 8.00. The inspections of the week comprise 836 hhds. Md.; 52 hhds Ohio;—total 888 hhds.

Flour—best white wheat family, $6 00 a 6.50; super Howard-st. fresh $5.62½ a 5 68¾; city mills, fresh 5.25. 5.50; Susq.— a —; Corn Meal, bbl 3 50; Grain, Md. red wheat, 90 a 1.10; white do. 1.10 a 1.22, Susq. — a —Corn, white, 58 a 60—yellow 60 a 61—Rye, 67 a 70. Oats, .33 a 34. Beans, 75 a 80--Peas, 65 a 70—Cloverseed 5.25 a 5.75-Timothy, 2.00 a 2.50—Orchard Grass 1.37½ a 1.75-Tall Meadow Oat Grass 2.00 a 2.75-Herd's, 50 a 75—Lucerne 30 a 37½ lb.—Barley, —Flaxseed —- a ——Cotton, Va. 9 a 9½——Louisiana 11 a 13 —Alab. 9½ a. 11—Tenn.. 9½ a. ——N. Car.. 9 a .9½— Upland 8 a 10-Whiskey, hhds. 1st p. 32½ a 33—; in bbls 34 a 35——Wool, *Washed,* Prime or Saxony Fleece 58 a 67; American Full Blood, 50 a 58; three quarters do. 44 a 50; half do. 38 a 44; quarter and common do. 35 a 38. *Unwashed,* Prime or Saxony Fleece, 36 a 40; American Full Blood, 33 a 35; three quarters do. 30 a 33; half do. 23 a 30; quarter and common, 25 a 28— Hemp Russia ton, $255 a —; Country, dew-rotted. 5½ a 7c. lb. water-rotted, 7 a 9c.—Feathers, 35 a 37; Plaster Paris per ton, 4.25 a —, ground, 1.37½ a — bbl. Iron, gray pig for foundries per ton 33.00 a —; high pig for forges, per ton, 28.00 a 30.00; bar Sus. per ton, 72.50 a 80.00.—Prime Beef on the hoof, 4.75 a 5.25— Oak wood, 3.00 a 3.25—Hickory, 4.25 a 4.50—Pine 2.00 a 2.25.

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EDITED BY GIDEON B. SMITH.

Published every Friday, (at the old office, basement of Barnum's City hotel,) by I. IRVINE HITCHCOCK, *on the following*

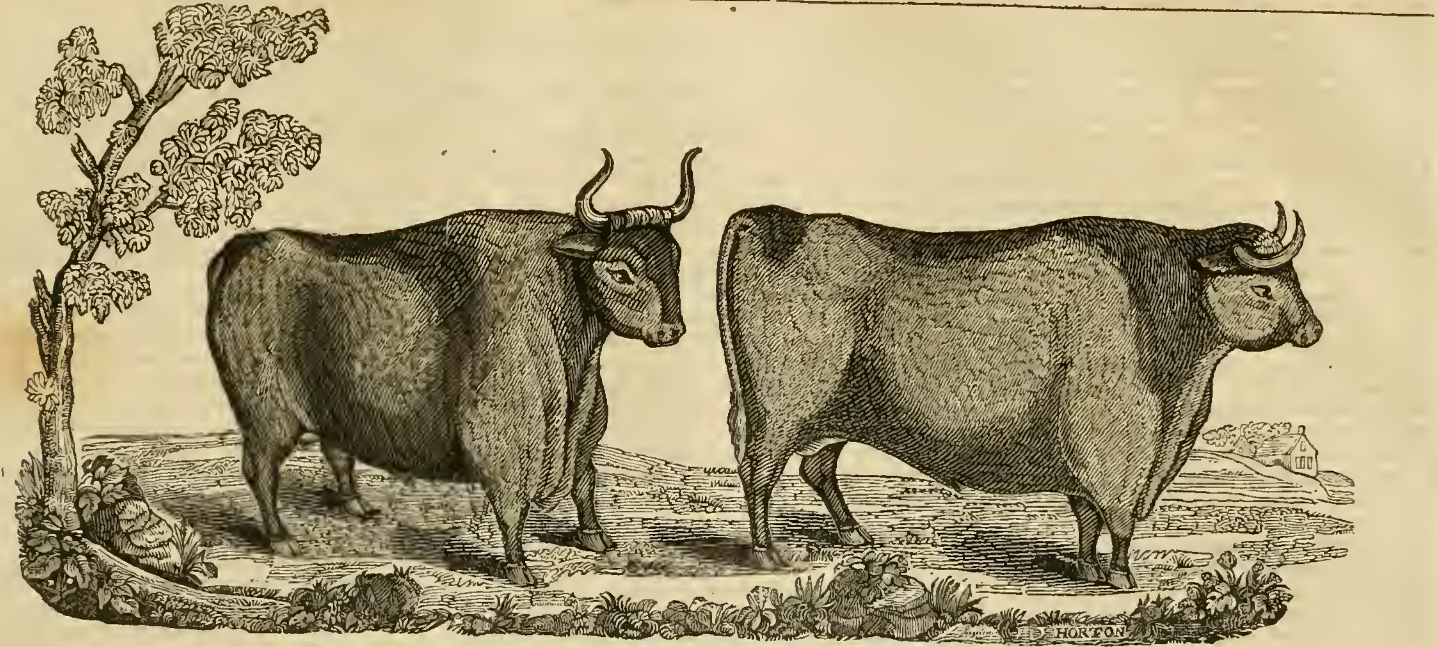
TERMS.

1. Price five dollars per annum, due at the middle of each year of subscription.
2. Subscriptions are in all cases charged *by the year,* and never for a shorter term.
3. When once sent to a subscriber, the paper will not be discontinued without his special order; and then not till the end of the year of his subscription that shall be current at the time of receiving such order; except at the discretion of the publisher.
4. The risk of mail in the transportation of both the paper, and of bank notes sent in payment for it, is assumed by the publisher.
5. Advertisements connected with any of the subjects of the American Farmer, inserted *once,* (seldom more) at one dollar per square.
6. All letters concerning this paper must be directed to the publisher. They must be free of postage, except communications intended for publication, and letters containing money.

☞ All Postmasters are requested to act as agents for the Farmer; they are authorised to retain $1 for each new subscriber, and 10 per cent. on *all other* collections.

Printed by John D. Toy, corner of St. Paul and Market streets.

AGRICULTURE.



NORTH DEVON CATTLE.

The above engravings represent two oxen of the North Devonshire breed, bred and fattened by Messrs. S. & L. Hurlbut of Winchester, Connecticut. They were from the original stock sent by that celebrated agriculturist, T. W. Coke, Esq. M. P. for the county of Norfolk, England, to Mr. Patterson of Baltimore. The net profitable weight of each ox when slaughtered by Tier & Granger, butchers Washington market, New York, was—

First Ox.		*Second Ox.*	
Carcass	1438	Carcass	1528
Hide	117	Hide	115
Tallow	175	Tallow	213
	1730 lbs.		1856 lbs.

The following letter from Mr. Coke on the subject of these oxen will be read with interest. It was addressed to Mr. J. Fisher, of New York, in answer to one from him giving an account of the cattle:—

Holkham, April 21, 1831.

Sir,—I am this moment favored with your kind letter, and most flattering account of the Devon Oxen. It is to me a pleasing reflection that I was the first person that introduced them first into America, through my friend Mr. Patterson. I thought them at that time, and I am still more confirmed in the opinion now, that they are the most superior kind of cattle in this island, if well selected. But I beg to be understood, when I speak of the Devonshire red Cattle, it is in praise of *the North Devon Cattle,* with yellow noses and indented foreheads, and yellow around their eyes, which *mark their character, beyond that of the Southern or South Devons,* which have black noses, or intermixed with black. These I beg to be distinctly understood not to recommend, or to be in any way recommended by me, as a superior breed of cattle.

Be so kind as to express my acknowledgements to Mr. Hurlbut, when you see him, and to assure him that I shall be at all times most happy to show him, or any of his American friends, should they come to England, every attention in my power in the Agricultural line.

I remain sir, your oblig'd humble servant,
Mr. J. Fisher, New York. Tho. Wm. Coke.

MAMMOTH INDIAN CORN.

Mr. Smith: *Caroline Co. Va. August* 26, 1831.

Large ears are an evil in the cultivation of the Indian corn crop. It is deemed necessary to make a few remarks on the above principle, from recent specimens exhibited in the public papers, of a disposition to *excel* in *mammoth* ears of Indian corn. There was one ear published by a southern gentleman, one by Mr. Upshur, and several by Mr. Daniel; the latter gentleman appears to have carried off the palm of victory in the four ears he sent to Mr. Skinner, late Editor of the American Farmer. His mode of annually cultivating, while he improved an old and exhausted field, is as justly to be admired as his selection of the particular variety is to be regretted and condemned; that the gourd seed is the largest of all the varieties, and makes the least product. The reason is, the corn requires to be planted in hills at a great distance apart, and an individual stalk will not produce more than one or two ears; consequently this variety will not make a large crop. Mr. Daniel planted his corn 5½ feet by 2 feet, with one stalk in a hill, which averaged six barrels to the acre, and 7 3-11 gills per hill. It must be conceded, I presume, the land was rich, for if "Mr. Upshur's ear, exhibited considerable fertility of soil in which it grew," certainly Mr. Daniel's ears from their superior size, exhibited still greater fertility. Let us suppose the fertility of the soil to be increased double, it would be extremely rich; and if the product is in proportion, it would be twelve barrels to the acre: that this, it is probable, is nearly the extreme product of this gigantic variety. Some years ago, being in the neighborhood of Pittsburg, I brought home the seed of a large pumpkin, which I planted the ensuing season; but one pumpkin generally grew on a vine, it was large, round and hollow, or with a thin shell, and also deficient in sweetness. I have considered that there is a striking similarity between the gourd seed and the big pumpkin, and neither ought to be cultivated. We will now contrast the gourd seed with the small yellow variety, which is cultivated in the northern states, that the farmers make in their best cultivated fields twenty-five barrels to the acre, and it produces the same in Virginia until it degenerates. The superiority of the latter over the former variety is thus accounted for: the smaller the corn, the closer it can be planted; that if it makes less per hill, it will make more in the aggregate; the increase in the number of ears preponderates over the diminution in size to increase the product. There is a statement in the Agricultural Memoirs of Pennsylvania by a gentleman who planted his corn at different distances to ascertain what distance would make the greatest product, that the distance of one foot each way, with one stalk in a hill, made the greatest crop. I do not recollect the product, but if it only made one gill per hill, it made a little upwards of twenty-five barrels to the acre. If the above mode in planting the southern corn made 7 3-11 gills per hill and six barrels per acre, and the mode in planting the northern corn made one gill per hill, and twenty-five barrels to the acre, the superiority of the small over the large variety is immense. It may be laid down as a principle, the smaller the corn the closer it can be planted, and the more it will make. I never saw a large crop of corn (said a practical farmer) without a great number of stalks. There were forty thousand stalks to the acre in the above experiment, and there were only thirteen hundred and twenty stalks in Mr. Daniel's crop. In the crop for which the late Peter Minor gained a premium from the Agricultural Society of Albemarle, there were ninety hundred stalks, which made nineteen barrels to the acre. The variety was the white flint. I have arithmetically demonstrated the closer corn is planted to a certain extent if the ears are smaller, the crop will be greater; that large ears are an evil if a less product is an evil when a greater one can be produced. It may not be deemed irrelevant to the subject to relate an important historical fact, which we find in Arator, that the Indians made more corn to the acre than we do, and it was to that author a profound mystery. No cause can be assigned for that circumstance, but the Indians cultivated a small variety, this mode, easy in its adoption with our superior tillage, would at once ensure a superiority in product over the aborigines of the soil, which to Arator was a hopeless event. I have cultivated the yellow rare ripe for many years, I procured the seed in a journey beyond the Allegany in the neighborhood of Morefield, on the Potomack. That further on I also procured the seed of a white flint; the plant was a mere dwarf, which was the only corn that grew on the mountain. I cultivated both the ensuing season, they both had a great disposition to sucker and shoot, but the white in a greater degree; it was difficult to correct its overshooting by closer planting to afford space for its cultivation. The flint and the gourd seed vegetate differently, the one suckers and overshoots generally; the other suckers and overshoots only in a wet season and fertile soil: this distinction proceeds from the small size and solid texture of the one, and the large size and open texture of the other. That corn produces according to the variety or solidity of the seed, I produce the following singular experiment to sustain the fact: Mr. Seabrooks selected seed corn from three parts of every ear; to wit, the point, middle and but end, for the purpose of planting two parcels of ground; that the seed from the point for these two trials produced more corn than the seed from the middle or but end; and the seed from the but end produced more corn than the seed from the middle:- in one instance the seed from the point produced double to that from the middle. I have to observe from an examination in various instances in proof of the cause of these facts, the seed from these several parts of the same ear present generally a difference, and in some instances a remarkable distinction in their degrees of solidity. The seed from the point possess a greater degree of solidity than the seed from the middle or but end, and the seed from the but end possess a greater degree of solidity than the seed from the middle. As the seed which produced the greater or less product was more or less solid than the rest, it appears the different products exhibited in the experiment proceeded from different degrees of solidity in the seed. Each variety in its vegetation generated according to its organic structure, different degrees of sap, which produced different products. The distance corn should be planted depends on the variety, and the product accordingly—this method should I presume, be adopted as a principle in practice, but Mr. Seabrooks planted the three varieties the same distance, which could be justifiable only as the seed was taken from the same ear. If the experiment should be continued, and it fails to produce the same results the distance should be varied according to the variety. The small flint is of the northern, and the gourd seed of southern origin; the former transplanted into the latter climate becomes rare-ripe, or it ripens three or four weeks sooner than the other corn—the gourd seed can be transplanted into a northern climate to ripen only by gradual transitions as the peach is said to have been introduced from a southern into a northern climate. Climate and soil operate to produce a change in the texture and products of plants; the maize and most of the cereal gramina flourish in a northern climate as their native region. It is there we should select our seed corn, as it must have a tendency when transplanted to develop those properties it has acquired by naturalization in a more congenial climate and soil. Judge Peters and Mr. Cooper improved their Indian corn crop by selecting seed in the first instance from a situation still more north, afterwards from the most vigorous and prolific stalks of their own crops until the grain finally became naturalized. Seed taken from the point of the most perfect or flinty ears will preserve the original purity of the variety better than any other method I have ever adopted.

Burbridge Anderson.

(From the Library of Useful Knowledge.)

NETHERBY, CUMBERLAND, No. III.

MANAGEMENT OF THE HOME FARM.

The management of the Park of Netherby, the extent of which is upwards of twelve hundred and ninety statute acres (independent of the woods surrounding and interspersed through the grounds,) comprehends the practical detail of a large grass and arable farm, managed on principles suited to the climate and local situation of the country, and occupied by the proprietor, not only with a view to the permanent improvement of the lands, but also to securing the largest return possible from them.

The detail is conducted by an active overseer or bailiff from one of the best-managed agricultural districts of Scotland.

The establishment consists of four regular ploughmen, each having the charge of a pair of horses; a steady elderly person, who has the charge of the granaries, and who superintends the field operations of hand-hoeing, reaping, &c.; and a park-keeper, who acts in the double capacity of superintendent of the whole grazing stock of cattle and sheep, and as butcher to the family. There is, besides, a person whose sole business it is to attend to the open and close draining of the lands about to be described, and whose services are of much consequence towards their good management. All these under servants have been very carefully selected. The female part of the establishment consists of a dairy-maid and an assistant in the cow-house. The establishment is so arranged that all hands are fully employed. All extra labour required at the hay and corn harvest, and in hand-hoeing the various crops, &c. is very readily commanded from the adjoining market town of Longtown. Every account and payment incident to this establishment is kept by the overseer, and is regularly audited and settled by the agent once a month; and a copy of the monthly account is duly put into the proprietor's hands, who is thus enabled to have the real situation of his farming matters constantly under his eye.

Extra work, such as mowing, draining, &c. is let by contract to labourers.

DESCRIPTION.

The management about to be described extends, as already mentioned, over about twelve hundred and ninety acres. The soils are of various descriptions, and consist of the following general divisions:

1st. On the banks of the river Esk, which cuts the grounds into two portions, the soil is a loamy clay on a porous bottom, and very various in point of quality, as is generally the case with all lands whose formation is the deposit or washings down of lands situated at a higher level. These lands are under permanent pasture.

2d. A mossy soil of no great extent, but of considerable depth, incumbent on clay, now irrigated meadow land.

3d. Gravelly soil, on an open bottom of gravel, technically called a rusty gravel, held in pasture or alternate husbandry; and,

4th. A clay soil of various qualities on a close till or stubborn clay subsoil, unsuited to constant pasturage, and therefore kept in alternate husbandry.

The lands consist of about 480 acres loamy clay, 28½ acres meadow, 320 acres gravel, and 462 acres clay soils.

The aspect is generally flat, but with a gentle undulating surface, and with a moderate inclination from the river which runs through the lands in a direction from N. E. to S. W. The whole lands lie compact and in a ring fence, and form together a very beautiful park, equal to any in the north of England, not only in point of appearance, but in real value, while these lands do not lie at more than from 70 to 120 feet above the level of the Solway Frith. The management of each kind of soil being different, requires a distinct and particular description, as will be found in the following account.

The Farm Buildings at Crofthead stand very nearly in the centre of the grounds, which has been found of great advantage in their management.

Longtown.—A considerable market town, containing from 1800 to 2000 souls, through which the great road from Edinburgh to London by Carlisle passes, is situated at the S. W. angle of these lands.

No manure can be procured here except what is produced on the farm, in the farm-yards at Crofthead, and what is purchased at Longtown. Of the last—as the farmers in the neighbourhood procure all they can—no great quantity of manure can be obtained. There is abundance of lime, however, to be got within four miles, at a price averaging about 3*s.* per single cart-load at the limekilns, or 4*d.* per imperial bushel. No chalk, clay, or shell marl is found in the neighbourhood, and the chief dependence is on dung and compost made on the lands, and lime as already stated. Turnips are indeed consumed on the lands, where the soil is dry by sheep.

A trial is just now in progress of using bone dust, as a manure for the production of turnips; and if it succeeds, as is expected, this assistant will be much used here in future.

DRAINING.

The first operation of management has been *in every case* to ensure a complete under-drainage, to relieve the lands from the springs by which they were surcharged, as well as attending closely to open draining. The improvement of close draining has been most effectually done by tiles manufactured on the estate, at a distance of about three miles, and in the same manner as is practised in Staffordshire and Warwickshire. Many hundred roods of drains have been executed in this way, and with complete success. The open draining has also been a point of paramount consideration. The ditches, or main drains, have always invariably been cut out to the proper level, so as readily and freely to discharge the water delivered into them. The sides are carefully sloped back by the spade, so as to discharge the water from the ridges; and the earth so cut away, as well as all high head-ridges have been in every case most carefully mixed up with lime, repeatedly turned over at proper intervals, and, lastly, applied as a rich compost in top-dressing the adjoining lands, after being depastured for the first two or three years. It is very surprising that sloping in the sides of main drains, and open ditches, which is a means of providing an ample supply of rich manure in thousands of cases, is almost invariably neglected by the practical farmer; and that he should equally neglect to remove the high head-ridges existing in almost every field (occasioned by the repeated use of the plough,) which would be the means of enriching the adjoining lands at an inconsiderable expense. This, with ditch and road scrapings, and every possible means of increasing the quantity of putrescent manure, have been closely and successfully attended to here, and with great success; and as the application of compost so collected has been almost in all cases to pasture lands, the effect has been excellent; while the grounds, when broken up for white crops, after being so manured, have—even on very inferior soils—yielded full and fair crops. Indeed the system pursued for a number of years, of turning every particle of soil not required for the production of useful crops, into compost to be applied as a top-dressing to the grass lands has been found very beneficial.

MANAGEMENT OF PASTURE LANDS.

The climate here, in common with the whole west coast of Britain, is rather wet; and considerable quantities of rain fall in Cumberland, in consequence of its proximity to the Atlantic. Dry soils therefore are of the greatest value here, and grass husbandry on many accounts is the most proper and natural for the district.

When lands are well and judiciously laid down to permanent pasture, the expense of their management is at once reduced. The local situation of this part of Cumberland, bordering on Scotland, renders it in a great measure a grazing or cattle-dealing country, and pasture land, of a good quality, is constantly in request, and yields full and fair rents, when let from year to year; or, when farmed in a run of seasons, it produces, either by cattle or sheep, a fair return to the grazier. The greatest part of the cattle and sheep sold in the great Scotch markets, in Galloway, and the north of Ireland, pass through the country to Carlisle, the great point where they change hands.

Old Grass Lands.—Around the house of Netherby a very considerable extent of old grass land exists. This has been completely underdrained; and as it was disposed to produce moss—so as to render the pasturage late in coming to maturity—a very heavy dose of *hot lime* was applied about ten years ago to the whole, with remarkably good effect; for after the first year's application, the moss was eradicated, and the pasture is now unrivalled in the country. The soil alluded to is generally good clay loam on an open bottom.

New Grass Lands.—Whether on light or heavy soils, it has been the constant custom here, in the first place, to lay the lands completely dry by underdraining; then to clean and pulverise the lands completely by summer fallow or green crops—to apply all the putrescent manure that could possibly be produced or purchased at a fair price. On light soils, turnips are consumed, by sheep folded on the grounds; and on clay soils, the turnips, if any are produced, have been regularly consumed in the farm-yards, and the manure so produced has been applied to the ensuing white crop. In all cases, supposing the lands (of whatever description of soil they may consist) to be thoroughly cleaned, the course here has been to sow out to permanent pasture with the *first* white crop, and with the following variety of pasture seeds; *viz.*

If Clay Lands,

Timothy Grass -	Pleum pratense.
Pacey's Ryegrass -	Solium perenne.
Red Clover - -	Trifolium pratense.
White Clover - -	Trifolium repens.

If Light Dry Soils,

Pacey's Ryegrass -	Solium perenne.
Red Clover - -	Trifolium pratense.
White Clover -	Trifolium repens.
Cucksfoot - - -	Dactylis glomerata.
Rib Grass - -	Plantago lanceolata.

Hay *is never* taken from lands intended to remain in permanent pasture. These lands, whether heavy or light soils, are constantly depastured with sheep for the first season. If clay lands, the grass is depastured from 1st May to 11th November, and if light soil from 1st May to 1st March yearly; and no stock of any kind is admitted on either description of soil between the terms mentioned. The second year any ordinary description of stock is admitted. In the course of years it has been found necessary to break up some part of these lands, and to lay them down anew to permanent pasture: the following varieties of pasture seed are now sown and approved of here.

Clay Lands,

Timothy Grass -	Pleum pratense.
Cocksfoot - -	Dactylis glomerata.
Meadow Fescue -	Festuca pratensis.
Dog's tail - - -	Cynosurus cristatus.
Meadow Cat's tail -	Pleum pratenese.
Pacey's Perl. Ryegrass	Solium perenne.
Red Clover - -	Trifolium pratense.
White Clover -	Trifolium repens.

Light Lands,

Timothy Grass -	Pleum pratense.
Pacey's Perl. Ryegrass	Solium perenne.
Cocksfoot - -	Dactylis glomerata.
Rib Grass - -	Plantago lanceolata.
Dog's-tail - -	Cynosurus cristatus.
Mixed Fescues -	Festuca duriuscula, Festuca pratensis, &c.
Mixed Poas - -	Poa pratensis, Poa cerulea, &c.
Red Clover - -	Trifolium pratense.
White Clover -	Trifolium repens.

The inferior description of clay lands in particular have been much improved by opening the furrow every autumn, about the month of November, by means of the furrow draining plough—an implement of simple construction, but one that cannot be too well known by the agriculturist. Its object is to cut a furrow slice out of the already existing furrow, 6 or 7 inches deeper, while its mould board, formed of wood, throws this slice 8 or 9 inches clear out on the right-hand side of the plough—thus forming a complete (we may say almost invisible) drain—which lays the land dry, and which discharges all superfluous water through the ensuing winter, while the furrow slice so removed is an addition to the compost heap. This simple implement has been of the greatest use here, and is strongly recommended to all farmers of wet clay lands.

Double Digging or Trenching.—Last year, during the distress of the hand-loom weavers, a large extent of ground of a very stiff clayey nature was trenched by those out of employment, in order to employ them. The deepness trenched was eighteen inches, and the inequalities of the surface were regularly reduced and attended to, and the grounds planted with potato and mangel wurzel, properly drilled and manured. Next year wheat will be sown, and the ground laid down again to permanent pasture.

Irrigated Meadows.—Here there are 18½ acres of water meadow on the ridge or bed system, and about 10½ on what is termed catch-work. It happens unfortunately that the water collected in a brook, descending through the lands to the Esk, is hardly sufficient, except in floods, for the purpose of complete irrigation. But the heavy crops produced even under imperfect watering, leave no doubt, however, of the utility of this branch of agriculture.

There are no other meadows here, and indeed the want of meadow ground is seriously felt over this district. In the general management of the pastures care is taken to eradicate docks, thistles, &c., from the surface; and moles are destroyed whenever their workings appear.

ROTATION OF CROPS.

The plough rotation followed on these lands has been as follows—on

GRAVELLY SOILS.

1. *Turnips.*—Generally Swedes or Aberdeen yellows, consumed on the ground by sheep.
2. *Barley.*—Sown about the middle of April with seeds for pasture: the lands laid generally quite *flat* in the surface.
3. Young Grass seeds depastured by sheep; generally ewes and lambs, from 1st May to 1st March.
4. Pasture.
5. Ditto.—Top-dressed this season with compost.
6. Pasture.
7. Pasture.
8. Pasture.
9. Oats out of ley.

Clay Lands *of the best description.*

1. *Summer fallow,* or, if the season is suitable, Globe Turnips. In either case, the land thoroughly cleaned and manured. Turnips pulled and consumed in the yards by cattle.
2. *Wheat,* sown in autumn, and grass seeds for pasture sown in the succeeding spring: no stock of any kind allowed to depasture these seeds in the ensuing winter.
3. *Young pasture Seeds,* depastured by sheep from 1st May to 11th November; but unless the ensuing winter should happen to be particularly dry, no stock admitted after that period
4. Pasture for the same period.
5. Ditto, ditto.—Top dressed with lime or compost.
6. Ditto, ditto.
7. Ditto, ditto.

If the lands now begin to show moss, so as to hurt the pastures, and render the grass later in coming to a full bite, they are generally ploughed for oats in the eighth year, about the middle of winter, so as to derive advantage from atmospherical influence, and are ploughed with a strong furrow.

Clays *of the second-rate description.*

1. *Bare fallow.*—Thoroughly cleaned, limed, and manured; the greatest pains being taken in all cases of clay land in the ploughing, so as to give the ridges a proper shape, to discharge all surface-water from the centre to the furrow.
2. *Wheat,* of the red kind, or oats, sown out with seeds for pasture.
3. *Seeds,* depastured by sheep from 1st May to 11th November.
4. Depastured by any kind of stock from ditto to ditto.
5. Depastured by any kind of stock from 1st May to 11th November.—Top dressed with lime or compost.
6. Ditto, ditto.
7. Dittlo, ditto.
8. Oats out of ley.

These various courses of cropping have been found to suit the lands extremely well. The application of lime or compost to the third year's pasture, is a point never overlooked; for it is found to renovate the pasture grasses, and the grounds, after an interval of two or three years, break up in capital condition for oats.

Wheat.—The wheat sown on the best descriptions of soil is invariably the white kind. That most in request for seed is understood to be what is called, in East Lothian, "Hunter's Wheat." Wheat, after summer fallow, has always been found of the best quality and greatest weight to the acre: on inferior clays red wheat is often sown. This variety is certainly well suited to such soils, and often fair average crops are obtained; but it is thicker in the husk, and therefore not so much in request with the corn-factors. The price in the market is generally one shilling per Carlisle bushel under the price of white wheat.[*]

Sowing.—The quantity of seed wheat to a statute acre sown broadcast, is from 2½ to 3 imperial bushels. The usual return, in favourable seasons, may be about from 34 to 38 imperial bushels per acre.

Period of Sowing.—On summer fallows, wheat is sown about the second week of September, and it wheat is tried after turnips, fed off on the lands by sheep, which is sometimes the case on lighter soils, the sowing being performed during the winter months in proportion as the turnips are consumed.

Tares or Vetches—Are seldom or never sown in this district. They answer, however, admirably in this district on fresh soils: they have invariably yielded a very large return of green food for soiling, and have been sown on purpose to be ready to be cut as green food between the first and second crops of clover. Tares are never made into hay in this district; and indeed from the great quantity of succulent matter they produce, in a variable climate, the process of making them into hay would be attended with much risk and probably little advantage. They are very useful when consumed in summer, in soiling by cattle or horses, and thereby adding greatly to the dunghill—a point of paramount importance, but in no other light is their culture recommended.

Rape.—Rape succeeds here very well on lands in fair condition. An experiment on rather a large scale was tried about eight years ago, of sowing in the month of July, no less a quantity than 120 acres of land of the first-rate quality—of loam intended for permanent pasture—with rape alone. The ground was previously thoroughly cleaned and limed, the rape and grass seeds sown, and the rape, immediately on arriving at maturity, eat off by sheep. The effect has answered, and the lands in question are the best pasture in the country at this moment.

Turnips.—The turnips sown here are the globe, the Aberdeen yellow, and the Swedish; all these varieties, when the seed is good and fresh, and the proper culture followed, have invariably succeeded here.

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[*] A Carlisle bushel is equal to 3 A imperial measure.

The globe is consumed first, then the Aberdeen yellow, and lastly the Swedes. A number of other turnip seeds have been tried, such as the tankard, the green round, &c.; but, from experience, the three kinds first named are decidedly preferred.

Drill Husbandry.—Turnips are always drilled here, and without a single case of failure. The turnip husbandry of East Lothian and Berwickshire is followed from first to last. The crops produced are generally heavy, sound, and good, even on the stiffest description of clays. These crops are either consumed in the farm-yards by cattle, or on the ground by sheep. In eating off turnips by sheep, the practice here has always been at first to confine the flock on an extent calculated to support them fully for one week, and to give them a fresh break once a week afterwards, allowing the flock the range over the first portions of ground allotted to them. Hay, in sheep-haicks or cribs, is given along with turnips: Swedes are undoubtedly a most valuable crop to the farmer, and are the favourite food of all sorts of cattle and sheep. It is the custom in this establishment also to give the working horses, in the winter and spring months, a considerable proportion of Swedes daily; and the effect is to make the animals eat their oats with more avidity, and to render them more fresh, and their coats more glossy. No other crops (potatoes, beans, and mangel wurzel excepted) are drilled here. On the light soils, however, there is not the least doubt that all the white crops may be drilled and hand-hoed with the greatest advantage; and it is in contemplation to resort to this mode of culture in future, as the most garden-like management, and as yielding a heavier and better description of grain, while at the same time all annual and other weeds are destroyed. Swedish turnips are sown in the latter end of April or beginning of May; globe and Aberdeen yellows during the first and second weeks of June. It is proper to mention, that the sheep generally fed off by turnips are the best description of Chevoit wedders from Sutherland, Roxburgh, and Dumfrieshire. Ewes and lambs on turnip are seldom or ever attempted here. It would be reckoned very slovenly management to allow turnips to sprout in spring: they are always consumed when perfectly sound in the bulb, whether in the yards or in the fields.

Barley.—Barley succeeds turnips which were consumed on the ground by sheep: of course these crops can only follow with advantage in rotation on turnip soils. If the turnips have been properly managed, as already described by the eating them on the ground, the lightest soils will be compactly beat together by the treading of the flock. One furrow on such soils is considered in general sufficient, and the proper time of sowing is from 1st April to 20th May. It is here proper to state, that barley after turnip should be sown *hot furrow,* that is to say, the sower should immediately follow the plough, and the harrow the sower; and probably, if the weather appears to set in droughty, the grass seeds and roller should close the scene behind the harrows. When the process of barley sowing is conducted in this way, a failure of crops has never taken place here. Pure barley alone is sown; and the old variety, called rough beer or big, seems, with much propriety, to be quite out of fashion in the district. These grounds seldom fail to produce barley of an excellent malting quality; indeed, the vale of the Esk is celebrated for the good quality of its barley crops.

Grass.—Grass never fails to succeed hereafter barley. If it is intended to cut the grass crop green for soiling, ryegrass, with a large proportion of red clover, and a small proportion of white, are sown. The soils here, from the management described, are generally fresh; and not one single case is remembered where the clover crops have failed altogether on any of these soils.

Ryegrass—As a hay grass, is a very valuable variety; but when land is intended for permanent pasture, or for lying a number of years, ryegrass does not appear to be so well adapted as many other varieties for grazing purposes, and hitherto too much seed of this kind has been sown here on permanent pasture lands.

Fiorin Grass has never been cultivated here. It is probable, however, that practical agriculturists may, in many cases, entertain unfounded prejudices against this grass. A small fiorin meadow, as a trial, is in the progress of being laid out at present.

Sainfoin is never sown in this district, and clover is seldom or never sown without a mixture of grass seeds along with it. One experiment, on good land, of sowing red clover only, succeeded admirably.

Potatoes, under good management by the drill system, never fail here, even on the clay soils. No great quantity, however, is ever grown on this farm, except for the use of the family.

Mangel Wurzel has been cultivated for two or three years. The growing of this esculent is, however, quite new in the district, and is therefore only cautiously attempted at first. The result, hitherto, is favourable, although the Swedish turnip is supposed to be a crop of equal value.

(To be continued.)

HORTICULTURE.

GOOSEBERRIES.

Mr. Smith:

You may say, from me, that the gooseberries which took the premium for two years at our N. Y. Horticultural Society, and which I presented in behalf of Mrs. Winter (my next neighbour) were produced on bushes planted along a border on the north side of a picket fence four feet high. The plants are placed about two feet from the fence, and their branches now extend within about 10 or 12 inches of it—care is taken to keep the body clear from suckers, which is one of the most important points to insure large fruit. One of the finest patches of gooseberries I ever saw, was planted beneath peach trees in an orchard, and had a row of horse beans between each row of gooseberry plants. The beans were planted at such periods as would cause them to gain their height, or nearly so, about the time the gooseberries were ripe, and they effectually aided in sheltering the fruit from the parching rays of the sun, which is another most important point to be attended to.

The only further measures to be adopted are plentiful manuring, and autumnal trimming out of the old and useless wood.

I have made these remarks, based upon the principle that *fine varieties* are selected to begin the plantation with, without which all labour is vain. The gooseberries sent from the gardens here to the New York Horticultural Society's exhibitions were the largest I have ever seen. I began this as a private communication, but if you choose you can make it public.

Wm. Robert Prince.

LOUBAT'S VINEYARD.

On the 5th inst. we visited the Loubat Vineyard on Long Island. Mr. L. is now absent in France, and although we had but a few minutes to inspect the vines, still we saw sufficient to confirm us in our opinion that the successful culture of the foreign vine is not only quite possible, but almost absolutely certain. There is a much greater quantity of grapes than last year. Already three or four hundred pounds have been sold in the city markets, at 15 to 30 cents per lb. We understood the mildew had not been troublesome.—*N. Y. Farmer.*

"A wise man," says Lord Bacon, "will desire no more than what he can get justly, use soberly, distribute cheerfully, and leave contentedly."

RURAL ECONOMY.

The following remarks on the horse, are such as we have heard from observing farmers of the west; and to them it may be added, that the bones of high bred horses are of a finer texture, more solid, heavier and stronger in proportion to size than those of common horses, and the animal uniformly more docile and mild and longer lived. Would it be too much for us to ask a continuation of contributions from our much respected correspondent?

Practical Observations on the Principles of Breeding.

Mr. Smith: *Fayette County, Kentucky,* 1831.

As agriculture is the most universal of all employments, and its prosperity the measure of the success of all other pursuits; so it may be affirmed that the culture of domestic animals is the most important branch of this great interest, and the one which most perfectly indicates the condition of all its other departments. When we see the beasts that cultivate the farmer's fields, we can form a surprisingly true judgment of the profits of his labours. When we see the fatted animals for his table, or the shambles, we can tell at once his manner of living, and the value of his mode of farming. And so it is through the whole calendar of results.

No degree of skill or attention, will convert a mean animal into a good one. The qualities of the individual, though they may not be as distinctive, are nearly as obstinate as those which separate one species from another. And a man might as well expect by culture to make the obdurate hog yield the exquisite fleece of the Saxon sheep, as to convert the patient and cold blooded drudge, into the spirited and beautiful courser. We must begin right, or we are obliged to end wrong. We must *breed* with an intelligent eye to the results after which we aim, or all our subsequent labours will fail of their adequate reward.

To that point therefore, *the breeding of domestic animals*—I desire to direct the attention of your readers, as to a thing lying at the foundation of their prosperity. What I have to say, is the result of several years attention to the subject; and though much of it may appear different, from what is commonly received as true, I do not feel at liberty to disregard, facts occuring under my own notice, out of deference to any popular opinion. If more numerous and better conducted experiments shall establish results different from those I have arrived at,—I am sure no one will receive and act on them with more alacrity than myself.

Every animal in a state of nature produces an animal the image of itself, not only in appearance, but in all its instincts and endowments. We cannot say that one deer is swifter than another of like age and condition, nor that one tiger is more ferocious than another. In a herd of buffaloe you could hardly distinguish one from another of the same sex and years; and in a covey of wild birds the nicest scrutiny will scarcely detect the most trifling difference between any two males or females. It is the same through the whole range of animal life, in a state of nature.

We find it far otherwise in our farm-yards and fields. Between the parent and the offspring, in every species of domesticated animals, there are very great, and frequently so far as we can discover most capricious diversities. This is the very fact which gives to this subject its importance as well as its difficulty. For if domestication had not infringed on nature in this particular, we could not have felt more uncertainty about the produce of our flocks and herds, than about the appearance of the young in a park of deer. We have cultivated away, in part at least, one great law of animal nature; and what we seek is amid the great irregularities which have succeeded to the simple uniformity of nature, to fasten on, and as far as practicable to perpetuate such of them as we find most conducive to our interest.

This has been achieved already to a considerable extent. Men have taken individuals possessing in a high degree certain desirable qualities, and by breeding them together through many successive generations, have succeeded in stamping the original peculiarities in some degree upon the whole family. These are what are called, *blooded animals;* and they are considered purer blooded, or the reverse, as they are more or less capable of propagating young which shall have the peculiarities for which that race may be esteemed.

Whether breeders will take the improvements already made to hand for them, and make the present improved races, the foundation of their own stocks; or whether they will start afresh to go over what the world has been some generations about already,—is a thing that each man must decide for himself. For my own part, I prefer the former mode, though the matter is not absolutely clear. For it is undeniable that many of our improved or blooded races, as we have them, are liable to great objections; as, for example, the delicacy of constitution found in many,—the want of virility in others,—besides other objections which I pass over as not being strictly relevant to the matter in hand. I think it certain, that no one race can be said to have been brought to the highest point of improvement; I am sure none such has fallen under my notice. Indeed it is rather surprising to find, that after so great pains have been taken with most of our domestic animals,—the best families of them should still be liable to such great diversities among themselves, and should produce so very few capital animals. I doubt whether one thorough bred out of a hundred, is even a tolerable racer; and probably not one in fifty of those sufficiently esteemed to be trained, would be considered a superior turf horse. The great scarcity of capital animals in every species, is obvious, from the great value attached to those that chance to be so, and the enormous prices they command.

It must be admitted, however, that the improved races, as we have them, though liable to serious objections and susceptible of much farther improvement, are out of all comparision superior to what are called the common or scrub breeds. I should consider it nearly impossible to make any of those last named races better than they are at present, so long as breeders continue to pursue the ordinary system of breeding them together without discrimination or selection. Indeed if the best herd of improved short horns, were turned out with no more care than our grubs receive, —all the females indiscriminately bred from,—the males selected without trial, solely by the eye, and put to service in the herd without reference to age or consanguinity, it would not require many generations for these practices, and others like them, to reduce them to the lowest degree of worthlessness. It would be far better to release them from all interference by man, and permit them to recur by slow degrees to a state of nature—in which you find every thing, always produced in the best possible way, that the circumstances of the particular case will allow of. We may ameliorate the circumstances, and then she produces better; or we may counteract some of her laws, and then she produces monsters—produces nothing—or operates with a caprice apparently endless and inexhaustible.

As a general rule it is certainly true that the produce of any animal is more likely to pursue the qualities which distinguish the family to which it belongs, than those which are more particularly personal to its immediate ancestor. You will be more apt to get good stock from an animal of pure blood, whose family are good, even if he be inferior in qualities, than from the finest possible animal, if he be a chance animal from a low bred and inferior stock. The latter may produce a few young like himself, and they being carefully selected and bred from, may in time produce a good race,—but the most of his stock will resemble his ancestors. I know of no exception to this, where the animal thus superior to his race, is of cold blood. But there are some singular cases of fine animals of a fine race also, that have propagated stock inferior to themselves, and inferior also to their own race. Potomac, one of the best sons of Diomed, and one of the longest lived, never perhaps begot a single horse as good as himself, nor one as good as the average stock of his sire. It will not do therefore to trust to a sire, if he be never so fine, if his family are base. It will not do moreover to rely on the best son of the best sire, till he has proved himself by his offspring.

It is very remarkable, but it is nevertheless a fact, that in some races an animal of pure blood will be more apt to produce young like itself *in appearance*, where the opposite parent is a scrub, than if it also were high bred. It may be that the pure blood of the one parent finds nothing in the mixed puddle of the others to countervail its effects on the young. Or it may depend on some other cause not easily traced. But of the fact, there is no doubt. The next cross, however, will show the cloven foot; and he who relies on such doubtful indications will find at last that he has bestowed his labour in vain. It cannot be too steadily kept in remembrance, that although high breeding is much,—and good appearance is much,—and fine qualities are much, yet to arrive at a reasonable certainty, we must have besides all these, *trial by offspring*, and that where both parents are similar in kind. When all these meet you have all you need desire, and may proceed to select the finest produce and go on with their improvement; instead of seeking out new crosses and uncertain mixed breeds, which in two or three generations may reward you with a total failure.

In relation to crosses, I have found after repeated trials and much observation, on many species, that it is not possible to keep up a mixed breed of any kind, without resorting continually to the original families which produced the mixed race you desire to continue. Two half breeds will not produce in the next generation a race like themselves, no matter how nearly the parents may resemble each other. One animal will resemble the remote ancestors on one side, another those on the other. And instead of having, as you may have hoped, a new race of your own, you will have several races, only remotely resembling each other, with this common propensity, that they are all getting worse each generation. Those mixed races in whatever kind of stock, may be easily and certainly continued by resorting constantly to one pure blooded and one scrub parent, or to two blooded parents of different races, according to the character of stock you wish to breed.

As to the degrees of blood required in one or both parents, that of course must be determined by the use for which the produce is designed. Breeders generally consider seven-eighths nearly equal to full blood; and at fifteen sixteenths animals are usually accounted full blooded. I very much doubt whether this mode of computation is strict enough. And it seems not improbable, that many of the failures attendant on what we consider thorough breeding may have resulted from the errors into which it has led breeders. The tendency in all such stocks is backward; and they can be advanced only with care and difficulty. The consequence is, that it requires a great deal of good blood to work out a very little that is bad. We fall into a great mistake when we imagine, that as at a certain point on one hand the scrub blood will predominate, so at an equal point on the other will the pure blood prevail. It is far otherwise. In the park of a friend in Mercer county, Kentucky, I saw half, quarter, one eighth breed buffalo, on the cow;—part being on the short horn Durham. The quarter breed looked nearly as much like the buffaloe as the cow; it was a female and a most beautiful animal. In the eighth breed the buffaloe was still somewhat discernible. But in these cases it was the first and strong outpourings of nature, from a stock that had been bred unmixed in our forests for a thousand generations. Yet even here the pure blood (which I call the buffaloe) was no longer distinct after the third, or perhaps even after the second generation. I specify this case the more particularly, because many persons suppose these two races will not breed on each other, and that has been asserted by some naturalists. I believe the common bull refuses to go to the buffaloe cow, on account of the peculiar stench of the latter; and on the other hand, there are very few cows of the common race that can give birth to a calf begotten by a buffaloe bull, on account of the excessive development of the shoulders and fore parts of those animals. Those difficulties are however sometimes overcome. On the other hand I have seen quarter bred sheep, hogs and horses, not to mention scores of individuals of inferior species, that had nothing to distinguish them from the most common animals. The most indifferent horse I ever owned, and the vilest looking, was a grandson of the imported horse Eagle, through two scrub mares. The Winter Arabian produced a stock in this state of very peculiar appearance,—all of the same general colour,—generally destitute of the peculiar horny substance which exists on the leg of the horse, on the inside, above the fore and below the hind knees,—and all so much alike, that in four or five years, he begot no colt that could not easily be told by the eye, as of his stock. I had five of his grand colts foaled last spring, and have seen perhaps thirty others,—some thuroughbred—some otherwise. The singular resemblance to each other no longer continues in the second generation; the horny substance recurs on the legs,—they are of various colours, and in their general appearance there is nothing to distinguish them greatly from other horses. One of the colts of the second generation, bred by myself, whose dam and sire were both by the Winter Arabian, making the colt possess as much of the blood of that horse, as either of its immediate parents did—was totally unlike the half breed stock. They were all grey and otherwise peculiar, the colt was sorrel and peculiar in no respect. The colt's mother was out of a mare by Sterling, his father out of one by Spread Eagle—who were brothers; both those mares were sorrels, and the colt somewhat resembled one of them—his grand-dam by the sire. But what is singular is this, the dam of the colt had produced one by Hephestion,—who was sorrel,—which yet was grey, and has been taken by most who saw it for a half bred Arabian; and is greatly more like that stock than his brother, who is more nearly related to it,—but bred from two mixed animals. Animals possessing less than half blood, I should generally consider as having no particular value on account of blood; in other words, animals are not likely to exhibit much of the peculiarity of a particular stock, if they are less than half bred on that stock. I have no idea that you can mix up the blood of six or seven kinds of sheep—cattle, horses, or any other creatures, and thence produce animals having in ratiable proportion the qualities of all their ancestors. It might be possible in that way, to produce a new race, after much time and care that would equal, perhaps excel any of the old: but the new race would not be in consequence, but rather coerced by the strong hand of cultivation in defiance of the original crosses.

There is not much diversity of opinion as to the ages at which animals should be put to breeding: and it would appear most reasonable that they should first have attained perfect maturity. It certainly injures the appearance of the male of all species to allow them to procreate before their persons are fully developed. With the female I have not observed the same thing to happen: and I have found that the earlier a female produces young, the better milker she generally is. The horse will procreate and the mare conceive at two years old,—sometimes earlier; and some of my best stock has been produced thus. The hog will begin to breed very young,—perhaps at six months old. Their produce begotten, when they are very young are few in number and generally puny. The cow kind will breed at a year old, or a little less; I think at that period, it is injurious to the male, but not so to the female. The most kinds of sheep will produce young at about fourteen months old; the merino has not with me, brought forth under twenty months and generally not till after two years old. I have never known a full blooded merino produce more than one lamb at a birth: while with our common sheep two are common, and I have seen three, and rarely four. I would say that where the females of any kind of domestic animal, are intended to be kept as breeders, they may be left to the guidance of nature, as to the age at which they will commence bearing young; but restrain the male, if possible, till he is perfectly mature, in a great degree at least, if not wholly. Besides, what has been before suggested, favoring this difference in the management of the different sexes, it may be observed that no more is required of the female in a state of domestication, than there would be in a state of nature, which is altogether different in regard to the male.

I am convinced that too much service is required of our males of all kinds of stock. A buck to fifty or eighty ewes, is not less than the usual rate in this country; which is more than double what is proper and what is common in other countries. The finest improved foreign cattle have been brought to their present condition in the hands of persons who let their bulls to very few cows. With us I have known a fine bull serve a whole neighborhood. After much inquiry I am satisfied that the average get of a stallion, when perfectly vigorous, will not exceed seventy foals of a season. Yet they are frequently let to double and treble that number of mares. Fine stallions, however, frequently have *teasers;* and where that is the case, those who breed from them would loose nothing by taking care that the teaser is not called on for more than his appropriate services. Any one who will take the trouble to examine, may know that nearly all the best horses of other countries have been begotten by sires who served only a dozen or twenty mares during a season. It is much to be questioned if a single capital English horse was begotten, while his sire was standing as a common stallion.

In regard to the proper size of animals, I will not say any thing, as that does not belong to the subject I am noticing. The *relative sizes* of the male and female from which you breed, does, however, require notice, and is a subject of great importance. They should be as nearly as may be of the same size, or if there be any difference, the female should exceed in stature. When the male is much the larger in stature, the progeny will be weak bodied, long necked, and what is called leggy. And since the people have gone wild about tall horses and large beef and mutton, turn where you will, you see animals such as I have described above. If the male is smaller than the female, the progeny will be compact, heavy bodied animals, with well proportioned extremities; not the most beautiful, but beyond doubt the heartiest and toughest animals in the world. It is to be observed that this kind of stock is produced only when the difference between the size of the parents is not excessive. For I knew an instance of a very small, heavily made, Canadian poney, which was brought to this region, that ruined much stock. The poney paced very well and became celebrated in consequence of having been ridden by a young lady of good family, who fell into a rage of love with an old man of some consequence among us, and eloped with him to his majesty's North American possessions. The girl was pursued and came back on the pacing stud; whereby he became as notorious as the feat of his former owner. He was about thirteen hands high, and was let to many of the largest mares in the country—many exceeding sixteen hands in height. In the stock thus produced, all the peculiarities indicated above were aggravated to a most unsightly and absurd degree. They were long bodied, lizzard legged, and squat, with diminutive extremities and immense frames, resembling nothing so much as the kind of dog called a bull-fiste. These results may perhaps be accounted for by supposing that when the male is much smaller than the female, the fœtus is smaller than the mother might well nourish, and consequently the central parts become more fully developed, becoming almost a monstrosity, the difference is very great; so when the male is much the larger of the two, the undersized mother is incapable of nourishing the fœtus properly, and hence its extremities become unduly developed. I do not, however, vouch for this, nor for any theory; intending merely to throw together a few important facts.

If I desired to procure an animal of a particular description, no matter what, I would be more particular about its dam than its sire. Injuries from improper service, and service at improper times, frequently befal the male—more rarely the female. Many other considerations will readily suggest themselves, looking to the same result. But over and above them all, I am convinced that the young of all creatures do in general follow more nearly after the qualities of the mother than the father. They partake more of her constitution, of her temper, of all that is good or bad about her. I think there is little doubt that any constitutional ailment of the mother is very apt to affect her young; while there is just as little that any such ailment of the father will not do so, except it be first communicated to the mother. If this be true, it seems conclusive of the other point. My own experience goes in the same way: and there are many recorded facts that I think put the matter at rest, though I do not remember to have seen the inference to which they lead stated, or the law of animal nature which I am recounting urged. I will mention one very striking case. The progeny of Diomed are no doubt the finest horses on the continent; and Archy is the finest among them. The stock of Buzzard are perhaps inferior to few except Diomed, and Hephestion is certainly the best among them. Why is this? Archy and Hephestion are both out of Castianira, who was the best mare ever in this country, and was descended from the best stock ever in England. Every animal she produced was of the very choicest kind. Nor was this absolutely peculiar to herself. Many females of various kinds of stock, have done the same; and very many others have produced superior animals to the extent of half or three fourths of all their young. The smallest of these commendations cannot be bestowed on any male that ever lived. I would press this point with the greater earnestness, as I fear it is generally disregarded, if not disbelieved.

There is probably no race of animals among us so perfect that every individual of it is fit to preserve as a breeder. The habit of the country is to make the selection by or before they have completed their first year. This may do with those species that come very early to maturity; but the cow does not reach perfection until its fourth or fifth year, nor the horse probably so soon. With these animals the foregoing practice is very impolitic. The colt or calf, whose dam suckles best, will by most persons be considered best until it is weaned, and frequently for some months afterwards. Indeed very little can be predicted of them, especially of the former, till they are two or three years old. The most promising when young, often turn out poorly, and the very reverse is as frequently the case. Animals for breeders should never be selected absolutely, until you have allowed them to be old enough to be gentled and used, and if possible, tried also, for that is among the chiefest points at last. With the horse there is a great collateral advantage in this delay; for as the genital organ developes itself very little after emasculation, those who are operated on at an early age, are much the most liable to stranguary and various other kindred disorders.

Some persons consider color very important in some kinds of stock, and the belief is not uncommon that aside from the known principles of breeding, there are artificial means by which any desired result of that kind may be rendered probable, if not certainly secured. I have no certain knowledge on this point, nor have I the least faith in the matter.

It has also been supposed, that you can by a particular course of culture, regulate to a great degree the proportion of males or females to which your stock may give birth. It is alleged that under circumstances highly propitious to the increase of any given species, most females will be produced, and under contrary circumstances most males. If this law should be found to exist, it is manifest that we have the matter very much in our hands. I have seen some experiments which render the fact in a small degree probable; but my own experience is against it, and I suppose it will turn out to be merely an ingenious speculation.

The principles here laid down, apply with equal force, whether we adopt the system of remote crosses, or that of in-and-in breeding. I have no disposition to hazard a conclusive opinion on the relative advantages, or the reverse of those much contested systems. It cannot be denied, however, on the one hand, that the in-and-in system will more certainly and speedily stamp any qualities you wish to perpetuate, as constitutional on a race of animals: nor is it to be questioned on the other, that that manner of breeding, if followed up, on near affinities, especially in the direct line, will weaken the constitution, and affect injuriously the virility of several kinds of animals. It has occurred to me that the true principles on which the controversy will be finally settled, have not as yet been brought into discussion. I incline strongly to the opinion that animals which are by nature gregarious, may be bred with great advantage on principles, which will not do with those that are naturally exclusive in their habits of copulation. Again, it is well known that animals which ordinarily produce several young at a birth, will have of the same litter the offspring of different fathers; whereas, those which ordinarily produce but one at a birth, are frequently rendered temporarily barren by a similar indulgence in promiscuous intercourse. I suspect it will turn out when this subject is fully understood, that these two kinds also require the application of different, perhaps adverse principles of breeding. R. J. B.

MISCELLANEOUS.

(From the Athenian (Georgia) of the 2d August.)

SNAKE FERN.

Mr. Shaw,—By giving publicity to the following letter from the postmaster at Rossville, the object of the writer will be most readily accomplished, viz: to diffuse generally, the knowledge of a remedy for a distressing or alarming accident to which all are more or less liable; and the rapidity with which the poison is absorbed, makes it exceedingly desirable that some antidote should be applied before it can be done under the direction of a physician.

The Family of Ferns (the 1st order of the class Cryptogamia) is very numerous. I am not prepared to say that this species may be found abundantly in this vicinity, but presume it may. To the intelligence and respectability of Mr. Coody, all who have acquaintance with him will cheerfully bear testimony.

Yours, respectfully, H. Hull.

Dear Sir,—I herewith enclose you the *Snake Fern* which will cure all kinds of *Snake bites.* It has been known to effect a cure when the patient's teeth had to be forced apart. It should be bruised (top and roots) and infused in water or sweet milk (the last is preferable) and taken as the stomach will bear it, till the symptoms subside.

I have no doubt but that it would be a valuable medicine in the case of Hydrophobia. I have lived in this nation 28 years and have never known or heard of an Indian being affected with that disease. It is certainly worth a trial. Yours, respectfully,

Dr. Hull. Joseph Coody.

What fern does Mr. Coody mean to recommend as a cure for all kinds of Snake bites? How are we to know which of the numerous family of ferns is referred to? Why has Dr. Hull not enlightened us upon this essential point? The fact is, there is too much of this tantalizing the public with such publications. We are continually presented with receipts for all the ills which flesh is heir to and most of them given in such vague terms, and with such local names, that none but the residents of the immediate neighborhood can either understand them or avail of their benefits. The above is a fair sample—who can tell us which of the two hundred species of fern is meant by the "Snake fern?"

SWALLOWS.

Mr. Smith: *Brotherton, August* 24, 1831.

From the testimony which I had received concerning your valuable "Farmer" I was induced to subscribe for it. I believe I am the only subscriber in this part of Anne Arundel county. In looking over the 17th No. page 135, of vol. 13, I found a letter from Dr. Mease of Philadelphia, concerning a bird said to be uncommon in certain parts of country named therein. There is a kind of swallow, which (as singular as it may appear) burrows in those high and steep banks which overlook the Round Bay of the Severn, which no doubt hundreds of the citizens of Baltimore have beheld while on one of those favorite steamboat excursions to that romantic sheet of water. This same bird migrates annually as it would seem, similar to those of the barn swallow, and very much resembles it, only I think not quite so large. These birds are no new comers, as I have seen them for twenty years past, and I am astonished that they have been neglected by the writers on birds. Perhaps there may be such a species of the swallow as I have alluded to in other parts of our country, and likely those alluded to by Dr. Mease may be the same. If you think the above worth publishing you may give it a place in the Farmer.

Yours, H. W. W.

THE FARMER.

Baltimore, Friday, Sept. 23, 1831.

☞ We would earnestly request the attention of subscribers who have not paid for the present volume, to the bill enclosed in the last or present number of the Farmer. We have omitted presenting bills for the current volume, (except when included in those for former arrears,) in accordance with an arrangement we have adopted of not asking payment till the expiration of half the year. This has very much straitened our resources, and we throw ourselves upon the liberality and sense of justice of our subscribers for relief.

Fruit—Grapes.—We have been delighted with the supply of delicious fruit which our market has afforded this season. In addition to our usual supply of fine peaches, which are unequalled in any other market, we have for some weeks past been furnished with delicious grapes from the vineyard of Nicholas Brewer, Esq. of Annapolis. They were of the following kinds:—Golden Chasselas, Sweetwater, Isabella, Bland's Madeira and Red Hamburg, the two first sold readily at $6 per bushel, and the Madeira are selling with equal facility at $3 to $4. Of the three last mentioned kinds, Mr. Brewer has about 200 bushels on his vines. The same gentleman has sent some of the finest pears with which our market has been supplied. His Yellow Beurre, and Mouthwater were particularly fine; and the Green Chisel was far superior to the fruit commonly met with—all of which sell for a good price. We are glad to find that the liberal spirit of our cultivators is thus met by a corresponding spirit on the part of our citizens—let this continue a few years longer and we shall be able to boast of a fruit market equal to any in the world. In addition to the above fruits, we have been pleased to see occasionally the *Seckel Pear* in our market, and in the baskets of fruit dealers. This being quite an uncommon fruit with us, (we hope it will not long be so,) we observe it does not sell readily, in consequence of its unfavourable appearance. It is a small, rusty coated fruit; but when *tasted* "needs not the foreign aid of ornament" externally to recommend it—it is the most delicious fruit ever exposed for sale in our market. Try it.

Charlieshope.—We beg leave again to direct the attention of our readers, and capitalists especially, to the advertisement offering the elegant and valuable farm of Mrs. Griffith of New Jersey, Charlieshope,—for sale at auction. We know of no farm now in the market that offers any thing like the inducements presented by Charlieshope to the consideration of persons wishing to purchase. We are acquainted with the detail of the improvements on this farm, and have no hesitation in saying that nothing short of many years time and thousands of dollars of expenditure could accomplish them.

Persons wishing elegant shrubbery and fine fruit trees will also take an interest in another advertisement relative to the same farm.

NUT PINE.

J. S. Skinner, Esq. *Cincinnati, Sept.* 9, 1831.

Sir,—I am directed by a resolution of the Hamilton county Agricultural Society, to return you their thanks for your polite attention in transmitting to them some of the seeds of the nut bearing pine, received by you from Commodore Porter. The Society has distributed these nuts to different gentlemen, by whom experiments will be made to ascertain whether they can be advantageously cultivated in this portion of our country.

There is no doubt that many valuable plants will be introduced into the United States from abroad, through the agency of our navy officers, foreign consuls, travellers, &c., and it is gratifying to us of the west to be enabled to be among the earliest partakers of the benefits of their introduction, through such marks of attention on the part of public spirited and patriotic individuals among our brethren of the east, as it is the object of the present letter to acknowledge.

Very respectfully, your obedient servant,

Jno. P. Foote, *Cor. Sec.*

Hamilton Co. Agr. Society.

FOREIGN MARKETS.

London Market, *August* 12.—Carolina Rice is 2s higher; 32s to 35s; Bengal Rice 13s and upwards. The weather for some days past having been favourable for harvest operations, there was very little disposition shown to-day to purchase any kind of grain, and although the prices of Monday last would have been taken, few sales were effected.

Liverpool Market, *August* 13.—Our Cotton Market throughout the week has been dull, and the prices of the lower descriptions of American and Brazil have declined 1 8d per lb. The transactions comprise 115 Sea Island at 10½d to 16d, with 40 stained at 5½d a 8d; 2560 Bowed 4 7-8d a 6½; 1240 Orleans 5d a 7 3-8, with 10 at 8d; 1830 Alabama and Mobile 4½d a 6 1-8d, and other descriptions, making together 8200 bags. About 100 hhds stemmed Tobacco, part of which is Kentucky of the new import, have been taken for the home trade, at 4½d a 5½d per lb. In Ashes the sales consist only of 80 brls. Montreal Pot at 29s 6d for old, and 31s 6d per cwt. for new. Nothing has been done in Rice; and we have no transactions to notice in Clover Seed.—120 hhds Quercitron Bark have been disposed of at 8s to 8s 3d per cwt. We have no sales to report in Turpentine; but 1860 brls. Stockholm Tar have been sold at 13s 6d per barrel.

There was a numerous attendance of millers and dealers at Tuesday's market, and a tolerably lively demand for the finer qualities of Wheat at fully the currency of that day sen'night. There was also more inclination to purchase secondary descriptions than previously. Free Flour was pretty ready of sale, and 6d per bbl. higher. Bonded Wheat and Flour were also dearer, and fine samples of the former extremely scarce. Notwithstanding the continuance of fine weather, holders are very firm, and appear to have great confidence that the value of Grain is not to be further reduced. The reports of the Wheat crop from the South are unfavourable, and some quantity of that Grain and Oats has been purchased for shipment to London. In Bonded Wheat and Flour there have been no transaction reported the last few days; for the latter a reduction of 1s per bbl. on Tuesday's currency would be accepted.

Liverpool, 15*th*—The Cotton market continues dull. The sales on Saturday and to-day, are about 2700 bags.

In consequence of the continuance of fine weather, the demand for Wheat from our millers and dealers has been on the most limited scale; there has, however, been some firmness with speculators, who have purchased several large parcels of Wheat, Oats, and particularly sour Flour for shipment to London, where prices rule higher than in this market, and where the idea prevails that the present crop of Wheat will turn out deficient in quantity. We have not heard of any transactions in bonded Wheat. A few thousand bbls. of Flour have changed hands, at 20s to 21s for sour, and 21s to 23s for sweet.

Havre, *August* 14.—Cottons—Little alteration in prices, the demand is less brisk, however, for middling and inferior qualities; good and handsome American qualities are scarce. A handsome lot of the old crop of 107 bales Georgia has been bought at 95f. Our stock amounts to 23 a 23,500 bales.

Rice—This article keeps up—392 tierces good quality have been sold at 26f.

Sales, Aug. 17.—Cotton, 30 bales Lou. at 98; 114 do. 92; 135 do. 89; 27 do. 93; 212 Alabama 87; 80 Georgia, 87; 57 Tennessee, 84; 50 tierces Car. Rice, 26.

Manchester Corn Market, *Aug.* 12.—At this morning's market, the transactions in Wheat were limited, at about the rates of our last; the same may be said of Flour, fresh descriptions of which, however, if of superior quality, meet a tolerably ready sale. Oats are as last noted, but with little inquiry; old meal is difficult of sale, and somewhat lower. Some small parcels of new oats and meal appeared; the former were sold at 3s. 8d. per bushel, and the latter at 33 to 34s. per load. In other articles no particular alteration.

Dublin Corn Exchange, *Augst.* 12

There was a middling supply of old grain at market, which sold at about the currency of last week, but new Bere and Oats fell 3d. to 6d. per bbl; some new wheat, very prime, brought—red, 23 to 25; white do. 24 to 26s.; wheat, old, 24 to 31.; Oats, old, 12 to 14; do. new, 10 to 12s.; Bere 11 to 12s.

Wakefield Corn Market, *August.* 12.

There was a fair arrival of wheat fresh up the river and a large supply, for the time of the year, from the farmers to this day's market, the weather having been very fine for the last three days, the sale for good fresh wheat has been extremely dull at a decline of 1s. to 2s. per quarter, and there is no demand for any other descriptions at any tolerable price. Oats are heavy sale at 1s. per quarter cheaper. The demand for beans is trifling, and last Friday's prices are barely supported. Harvest is now general in this neighborhood.

Prices Current in New York, Sept. 17.

Beeswax, yellow 18 a 21. *Cotton*, New Orleans .10 a .12; Upland, .7½ a .10; Alabama, .8 a 11½. *Cotton Bagging*, Hemp, yd. 14½ a 17; Flax 13 a 14½; *Flax*, American, 7 a 8.——*Flaxseed*, 7 bush. clean .—— a .—— *Flour*, N. York, bbl. 5.37 a 5.50; Canal, 5.62 a 5.81; Balt. Hwd. st. 5.87 a 6.00; Rh'd. city mills 6.25 a —— country, 5.56 a 5.68; Alexand'a, —— a 5.75; Fredericksburg —— a ——; Petersg. 5.75 a 6.00; Rye Flour, 3.75 a 3.87; Indian Meal, per bbl. 3.75 a 3.87; per hhd. 17.00 a 17.50; *Grain*, Wheat, North, 1.07 a ——; Vir. 1.12 a 1.15; Rye, North, 80 a —; Corn, Yel. Nor. — a 75; Barley, — a —; Oats, South and North, .44 a .50; Peas, white, dry, 7 bu. 5. Beans, 7 bu. 7.00 a 8 00; *Provisions*, Beef, mess 8.00 a 8.50; prime 4.75 a 5.31; cargo 4.62½ a 5.00; Lard, 11½ a .12; Pork, mess, bbl. 14.00 a 14.75; prime 10.00 a 11.50.

TO THE PUBLIC.

Having assured my friends and patrons that should I ever find it necessary to lower the prices of my PLOUGHS, that I would give public notice thereof, that every gentleman may know the price he will be charged before he sends his orders—I therefore submit the following reduced prices to the public, which will be my charge from the date hereof.

Balt. Sept. 17, 1831. J. S. EASTMAN.

No.		
No. 6	a small Seed Plough,	$4 50
7	also a seed do.	5 00
7	improved and a heavier Plough,	5 50
7	Bar Share for stony land,	6 00
8	one or a small two horse Plough,	5 50
8	large size improved small 2 horse do.	6 00
8	Bar Share for rough soil,	6 50
9	small 2 horse Plough, called the poney do.	7 00
9	large size heavier Plough improved,	7 50
9	Bar Share Plough for rough soil,	8 50
	Sword Coulter for the same $1.50.	
10	a large 2 horse or small 3 horse plough,	9 00
10	Bar Share for rough soil,	11 00
	Sword Coulter for the same $1.75.	
12	a large three horse Plough,	14 00
	Sword Coulter for the same $2.00.	

For sale improved Barshare Plough, and the Scotch Plough improved by Geo. Glezy, together with his usual assortment of AGRICULTURAL IMPLEMENTS and Grass Seeds. He has also received by ship London Packet, a fresh assortment of GARDEN SEEDS, which are believed to be of superior quality. J. S. E.

LINNÆAN BOTANNIC GARDEN AND NURSERIES, FLUSHING, NEAR NEW YORK.

William Prince & Sons, proprietors, announce that the great extensions made in their establishment which now covers nearly fifty acres, *compactly and regularly filled with the choicest trees, shrubs and plants*, enables them to offer the various kinds at the *reduced prices*, stated in their *new catalogues*, which will be sent *to any person who may apply for them*. The quality and excellence of the trees is superior to any former period. To nurseries they will allow a liberal discount, and convenient credit. All letters desiring information will be replied to by the *first mail*. As many persons are agents for different Nurseries, it is requested that orders intended for us be particularly specified. Every invoice sent has a *printed heading and our signature*, and such proof of origin must be insisted on, as we take upon ourselves no responsibility unless such an invoice can be produced. We are thus particular for conclusive reasons, knowing we have been injured by impositions. In the next paper, they will enumerate some particular articles. highly interesting to the public, of which we have cultivated a large supply to meet the demand.

GIDEON B. SMITH,
Agent, Baltimore.

N. B. In the Pomological Manual, just published, above 220 varieties of Pears, 100 of Plums, and 100 of Peaches are fully described, which will enable those not conversant with the subject *to make selections with a knowledge of the qualities*.

DURHAM SHORT HORNS.

For sale, eighteen Cows and Heifers of the Durham Short Horn breed—several are full bloods—the others seven eighths, and fifteen sixteenths blood, all bred from the best imported Bulls. Apply at the office of the American Farmer.

CHARLIESHOPE AT AUCTION.

For sale—at public sale, in New York, by Bleecker & Sons, on Saturday the 1st of October, the beautiful farm called Charlieshope, a notice of which appeared in this paper on the 29th of July. This farm is on the banks of the Raritan, and has upwards of six thousand bearing fruit trees, all of the finest kinds, and an extensive collection of grapes, strawberries, other small fruits, as well as hardy and exotic plants, and shrubs. The dwelling house is large and of modern date, and all the out buildings are in excellent order. Five thousand dollars of the purchase money can remain on mortgage. There is a water carriage from the farm—partly by a canal which is now building, to New York.

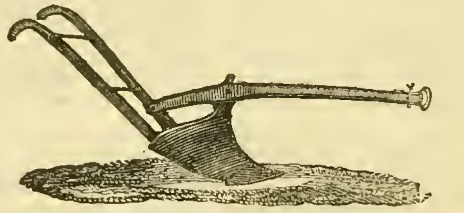
Sept. 23.

FRUIT TREES, SHRUBBERY, &c.

For sale, at the Charlieshope Nursery, every variety of Fruit Trees, and hardy and exotic plants, as well as upwards of two thousand plants of the Attar rose. A liberal discount will be allowed to those who purchase these Attar roses for sale, or for profit.

Apply by letter—post paid—of Mr. Wallace Griffith, Charlieshope, New Brunswick, New Jersey.

Sept. 23.



SINCLAIR & MOORE,

Pratt Street Wharf, Baltimore,

Offer for sale a stock of their Improved PLOUGHS, of sizes from heavy three horse to the six inch seeding Plough. Price of the latter $4.50, a superior article.

ALSO

Self-Sharpening Ploughs, of sizes
McCormick's Patent do. do.
Wood's Patent or Freeborn do.
Barshear do.

Hill side, Double Mould Board and Double Shovel Ploughs, Harrows, Cultivators, Hay and Manure Forks, Shovels, Spades, Cast Steel Axes, Trace Chains, Hay Knives, &c. &c.

CYLINDRICAL STRAW CUTTERS, this excellent article has heretofore been sold at from $75 to $45, we can now furnish our smallest size, being on a reduced scale at $27—this size will cut within about 25 per cent. as fast as the size at $45. Also on sale the Circular Knife, Self Feeding Box, Common Treadle, and other low priced Straw Cutters.

THRESHING MACHINES, we are prepared to offer such kinds as are durable and thresh fast, adapted to the power of three horses, of the improved Tooth Machine, we have as yet made only three, one of which sent to a distance and not yet heard from, the other two spoken of by the purchasers as follows.

Extract. "The threshing machine fully equals my expectation. I believe that in dry wheat of short straw two hundred bushels per day may be threshed with ease. (Signed) PEREGRINE WETHERED."

The above was written after threshing 1400 bushels of wheat from very long straw.

"Messrs. Sinclair & Moore,

Gentlemen,—I take pleasure in stating that your threshing machine put up by Mr. Johnson, threshes entirely to my satisfaction, with requisite attendance and proper attention I believe it will thresh twenty bushels the hour, I think the machine recommends itself by its simplicity and the facility with which it may be repaired. Yours, &c. LENOX BIRCKHEAD.

Sept. 3, 1831.

This machine is furnished at $75. Horse power to propel it $75.

Also for sale a constant supply of Improved WHEAT FANS, CORN SHELLERS, Garden and Field Seeds, Fruit Trees, &c.

Sept. 16.

BALTIMORE PRICES CURRENT.

Baltimore Market.—A slight improvement has taken place in Howard street flour on account of the limited supply; 5.62½ being the price paid to wagons. As the supply can scarcely be expected to increase much before the middle or latter end of October, it is expected the prices of Howard street will remain undiminished till that time, let the state of foreign demand be what it may. In other produce there is nothing worthy of remark.

Tobacco.—Seconds, as in quality, 3.00 a 5.00; do. ground leaf, 5.00 a 9.00.—Crop, common, 3.00 a 5.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 10.00; yellow and red, 8.00 a 14.00; yellow, 14.00 a 16.00.—Fine yellow, 16.00 a 20.00.—Virginia, 4.00 a 5.00.—Rappahannock, 3.00 a 4.00——Kentucky, 3.50 a 8.00. The inspections of the week comprise 760 hhds. Md.; 123 hhds Ohio;—total 883 hhds.

Flour—best white wheat family, $6.00 a 6.50; super Howard-st. fresh $5.68¾ a 5.75; city mills, fresh 5.25. 5.50; Susq.— a —; Corn Meal, bbl. 3.50; Grain, Md. red wheat, 90 a 1.08; white do. 1.10 a 1.20, Susq. — a —Corn, white, 52 a 53—yellow 58 a 54—Rye, 67 a 70. Oats, .33 a 34. Beans, 75 a 80—Peas, 65 a 70—Cloverseed 5.25 a 5.75-Timothy. 2.00 a 2.50—Orchard Grass 1.37½ a 1.75-Tall Meadow Oat Grass 2.00 a 2.75-Herd's, 50 a 75—Lucerne 30 a 37½ lb.—Barley. —Flaxseed — a ——Cotton, Va. 9 a 9½——Louisiana 11 a 13 —Alab. 9½ a. 11——Tenn.. 9 a. ——N. Car.. 9 a .9½— Upland 8 a 10-Whiskey, hhds. 1st p. 32½ a 33—; in bbls 34 a 35——Wool, *Washed*, Prime or Saxony Fleece 58 a 67; American Full Blood, 50 a 58; three quarters do. 44 a 50; half do. 38 a 44; quarter and common do. 35 a 38. *Unwashed*, Prime or Saxony Fleece, 36 a 40; American Full Blood, 33 a 35; three quarters do. 30 a 33; half do. 28 a 30; quarter and common, 25 a 28—— Hemp Russia ton, $255 a —; Country, dew-rotted, 5½ a 7c. lb. water-rotted, 7 a 9c.—Feathers, 36 a —; Plaster Paris, per ton, 4.25 a —, ground, 1.37½ a — bbl. Iron, gray pig for foundries per ton 33.00 a ——; high pig for forges, per ton, 28.00 a 30.00; bar Sus. per ton, 72.50 a 80.00.—Prime Beef on the hoof, 4.75 a 5.25— Oak wood, 3.00 a 3.25—Hickory, 4.25 a 4.50—Pine 2.00 a 2.25.

AGRICULTURAL BOOKS.

A general assortment of Agricultural Books kept constantly for sale at this office.

CONTENTS OF THIS NUMBER.

On the North Devon Cattle, with the engravings of two Oxen, and their weight—On the Culture of Mammoth Indian Corn—Management of Farms in England; Report of Select Farms, No. 8, Netherby, Cumberland; Management of the Home Farm; Description; Draining; Management of Pasture Lands; Rotation of Crops —Gooseberries—Loubat's Vineyard, Long Island— Practical Observations on the Principles of Breeding— Snake Fern a cure for Snake Bites—Swallows—Editorial, Fruit; Grapes; Nut Pine; Charlieshope—Foreign Markets—Prices Current in New York and Baltimore—Advertisements.

EDITED BY GIDEON B. SMITH.

Published every Friday, (at the old office, basement of Barnum's City hotel,) by I. IRVINE HITCHCOCK, *on the following*

TERMS.

1. Price five dollars per annum, due at the middle of each year of subscription.
2. Subscriptions are in all cases charged *by the year*, and never for a shorter term.
3. When once sent to a subscriber, the paper will not be discontinued without his special order; and then not till the end of the year of his subscription that shall be current at the time of receiving such order; except at the discretion of the publisher.
4. The risk of mail in the transportation of both the paper, and of bank notes sent in payment for it, is assumed by the publisher.
5. Advertisements connected with any of the subjects of the American Farmer, inserted *once*, (seldom more) at one dollar per square.
6. All letters concerning this paper must be directed to the publisher. They must be free of postage, except communications intended for publication, and letters containing money.

☞ All Postmasters are requested to act as agents for the Farmer they are authorised to retain $1 for each new subscriber, and 10 per cent. on *all other* collections.

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AGRICULTURE.

(From the Library of Useful Knowledge.)

NETHERBY, CUMBERLAND, No. III.

(Concluded from page 220.)

STOCK.

As feeding cattle for the butcher has always formed a principal point in the management of these lands, it is considered a matter of importance to select the breeds likely to arrive soonest at maturity. The pure short-horned breed, selected with care and expense from the stocks of the Messrs. Collins and other celebrated breeders, have long been used here, and on the best description of soils, with success. Various crosses have also been often tried between the short-horned and other breeds, and the result in general has been favourable for the first cross. The second cross produces here by no means so good an animal as the first. The cross between the short-horned and highland breeds produces a very good animal, with every tendency to feed, but of a nature almost as wild and untameable (and sometimes more so) as its highland progenitors. The cross between the short-horned and Ayrshire breeds produces a very good animal, generally well suited for dairy purposes. The cross between the short-horned and pulled Galloway breed produces a very excellent animal, possessing, in a great measure, the feeding qualities and best points of the short-horn, and the hardiness, and docility of the Galloway cattle. On good lands, this cross is here preferred to any other stock. The pure short-horned cattle are found, after many years experience, to be rather too tender for the climate, and difficult and expensive to winter.

Galloway Cattle are the general stock of the district. They possess many advantages, as they can at any time be brought to market. Their hardy and very healthy habits fit them well for the climate and soils of Cumberland; and although the first cross with the short horn does produce a good beast, no good breeder would choose to continue his stock from these crosses. Thirty of the best West Highland heifers, and four-score aged Highland black-faced wedders for the family use, along with the Galloway cattle, form the permanent stock on these lands. But from their extent it is impossible to winter as many cattle, as the grounds can summer; and therefore in April and May yearly, a flying stock of cattle, chiefly Galloways and West Highland heifers, are purchased in the local markets on their journey southward, and fed off on these pastures; and it is the custom to have an annual public sale of this flying stock. They are sold in lots, and are generally bought by the cattle dealers and butchers. The greatest number are resold again at the great fair of Broughhill in Westmoreland, on the 1st of October. Thus the pastures are completely eased at the proper season, and left rough for the wintering stock, and about this period all accounts are settled, the remaining stocks, crops, &c., valued, and the profits or loss on the whole concern annually struck.

Sheep.—Except the black-faced stock already mentioned, as kept for the consumption of the family, no other sheep are kept, for it has been found that cattle pay much better; pure Leicester and South Downs have been kept as breeding stocks, as well as Chevoit and half-bred sheep, but the result has been to abandon a breeding stock of sheep entirely.

Lambs.—The breeding of lambs for sale to the butcher has never been followed here, but breeding for a stock has been. The ewes have in every case lambed in the open pastures, and little or no loss has ever ensued from the practice.

In extensive stocks, it is impossible to protect the ewes in the lambing season, from the fall of rain or snow. In very small stocks, sheds for sheep may answer a very good purpose, but it has never been found necessary to provide such protection here. Folding ewes in a confined place in the lambing season, is decidedly an improper mode, and is never practised in this country.

The sheep commonly grazed in the district are the Cheviot breed, but probably the most profitable is the half-bred or cross, between the pure Leicester, and the pure Cheviot; for these possess the stamina or hardy constitution of the Cheviot, with the docile and gentle nature and feeding qualities of the Leicester breed, while the wool is improved by the cross. Sheep are seldom laid with tar and butter on these grounds, but otherwise every thing that can conduce to their health and comfort is attended to by a careful person who manages the stock.

Horses.—The farm horses in greatest repute in this district are the rough-legged Clydesdale or Lanarkshire breed. In this establishment, these and the Cleveland horses are generally used. The preference in the reporter's opinion is due to the Cleveland breed, for they are more quick in their movements, and consequently better adapted to light soils than the Clydesdale, which breed, however, is admirably adapted to heavy soils, and are remarkably quiet, and generally possess good constitutions.

Pigs.—This particular district produces great quantities of bacon and hams for the London and Liverpool markets, and the breed of pigs is in consequence a point much attended to. There are different breeds here, but the kind preferred in this establishment is what are provincially called the "prick ears," a well made, short-legged animal of its kind, of a yellowish-white colour, averaging, when quite fat, sixteen or seventeen stone of fourteen pounds each. This variety seems of a remarkably sound constitution, and is generally fed off at from twelve to fifteen months old. In this district pigs are allowed a range of pasture, with food in their piggery at regular intervals, and they thrive remarkably when so managed. On this farm, however, they are only allowed the range of the straw-yards. They consume the refuse from the kitchen, aided by potatoes, &c., steamed for their use, and they have always yielded a very fair return.

Management.—-Cleanliness, as well in making ready the food as in the piggery, is essentially necessary to promote the health of the animal, and fresh beds of clean straw are regularly given them. A steaming apparatus on the most approved principles for preparing the food of the horses, dairy cows and pigs, has always been used here, and ought to be used on every large farm, but attention should be paid not to give any food more than lukewarm to any stock.

IMPLEMENTS.

Ploughs.—Iron ploughs only are used. The first of the kind was manufactured by Wilkie, of Uddingstone, near Glasgow, but these implements are now regularly made on the best construction, by tradesmen in the neighbourhood. They are uniformly drawn by two horses abreast only, and with such ploughs and horses, any kind of soil may be well cultivated. The furrow-cutting plough described under the head of grass husbandry, may be made by any plough-wright, and is a most useful implement. The number of horses employed in drawing it depends on the depth of the furrow, and the nature of the soil.

Carts.—Carts with iron axles and two shafts, as commonly used in Lanarkshire, drawn by a single horse, are decidedly the best, and no other kind is used here. In harvest and haymaking a frame is mounted on the shelvings of such carts for bringing the crops from the fields.

Harrows.—Finlayson's patent harrow is greatly used here for cleaning lands. It is a very useful and excellent implement for such purposes. The common seed harrows are in use on this farm; some of these are made of iron.

Drill Machines.—A machine for sowing turnips by two drills at once is used here, and another machine mounted on a small wheel, and pushed by a man, for sowing grass and clover seeds, is also in use.

Threshing and cleaning the Grain.—At first for many years this was done by a threshing machine driven by horses—latterly it is altogether done by hand labour and by the flail, and paid for by the bushel of cleaned grain. The expense is probably as cheap by the flail as by the machine, and employment is thus given to the poor, and every purpose required is answered by the present practice.*

MANURE.

No part of rural economy is less understood or attended to than the management of manure, and it would require a treatise on the subject to detail the systems pursued in the best farmed Scotch districts, which are always held as the guide for good management here. It may be shortly stated that all the urine from the stables, yards, cow-houses, piggeries, &c., is carefully conducted by under drains into the dung-pits. The dung collected is carted out during the winter for turnips, and laid up in convenient places for a speedy application to the lands, the instant the season suits for sowing. The middens, or dung-hills, in the fields are hollowed out in the bottoms, so as to prevent the moisture from escaping, and are regularly covered with mould The carts are never allowed to pass along the dung-heaps. The manure made in summer when cattle get green food in the house is always of better quality than winter-made dung, and is generally applied to the summer fallows. Short dung is unquestionably most suitable for turnips, as in that state it affords no interruption to the plough and drill. Long dung, that is to say, dung not fermented, may be applied to potatoes without any impropriety. The management of compost occupies considerable attention; frequent turnings, and probably twelve months are required to reduce the stubborn lumps of clay often used in the making compost, and turnips are in many cases raised by no other application.

GENERAL CHARACTER OF THE DISTRICT.

The estate, of which the lands here described form a part, consists of an extensive district, in which there is a very considerable quantity of good loamy clay and gravelly soils on the rivers, but by far the greatest portion is clay soil. Horses are regularly bred by almost every farmer, and the dairy husbandry (chiefly in the making of butter) is largely followed. Every person produces a certain number of young cattle as well as fat beasts for market, and large quantities of pork and bacon are produced, besides considerable quantities of wheat, barley, oats and turnips. In this district, where a mixed system of husbandry is followed, from the necessity of attending markets, and from having a considerable intercourse with strangers, the farmers are sharp, clear-sighted people, alive and ready to adopt any successful experiment, *after it has succeeded under the proprietor's management.* On this estate a local farmer society, confined to its bounds, but having three hundred members, has long existed, by whom prizes are yearly awarded to every branch of good management in agricultural matters, and to the various descriptions of stock. The yeomanry thus meet regularly once a year, they hear the management of their farms discussed openly and freely; good managers are praised and rewarded, and indolence and bad management would be ashamed to exhibit themselves. All the good stock of the country is annually shewn, and the spirit of emulation is invariably attended with good consequences at the next meeting.

The country is purely agricultural. No man is above his profession, and almost all are possessed of means fully equal to managing their lands in the best style. The country is now enclosed and subdivided into suitably sized fields. Quick hedges of thorn, kept neatly dressed by the pruning knife, are the common fence of the country, and few countries can boast of better hedges than this.

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* The experience of every other district of the kingdom is contrary to this conclusion. The machine threshes much more cleanly, and it is equally beneficial to the consumer and the farmer, from the facility with which it enables the latter to meet all the changes and exigencies of the market.

Except along the sides of the great roads, hedgerow trees are not usually seen or planted, and the country where grain is chiefly produced has been purposely and judiciously left open, to admit of a free current of air and sun to the crops, a point of much consequence in bad seasons, and in a climate as damp as this is. This district lies low. It extends from the head of the Solway Frith, rising from the level of the sea, with a very gentle general rise for twelve miles, to an altitude of about five or six hundred feet. The district is not subject to any epidemical disease. The people are temperate in their habits, and often attain a great age: pulmonary consumption, however, frequently makes its appearance, particularly in the vales descending towards this open country; and numbers of the youth of both sexes are cut off by this fatal malady.

PLANTING.

The management of plantations is probably foreign to the common operations of the farmer, but the shelter which they afford render them at all times, and especially in an open district, objects of great moment even to him. Hundreds of acres have been planted on this estate, and the general success has been cheering. Trenching by the spade has never been done here preparatory to planting timber, the scale on which planting has been conducted being far too large to be managed in this way, but the lands have in every case been laid dry by open drains, and in some cases (particularly in planting land covered with short ling) the ground has been ploughed before planting by a plough drawn by four horses. For the first three years, the young trees have not grown so luxuriantly as might be desired, but in the fourth year, and afterwards, they push out vigorously. In every case care has been taken to plant hardwood trees of oak and ash, &c., and at such spaces that they may ultimately become the standard trees; and larch and Scotch fir are, in the meantime planted as nurses, to be removed according to the necessity of the case. Every variety of tree thrives well on this property, but more particularly on the loamy soils.

CAPITAL AND ACCOUNTS.

Without an adequate capital, good farming cannot be followed. This, however, though a point of first consequence, we fear is often too little considered by the young farmer, and probably by the proprietor in letting his lands. Before letting lands, the proprietor or his agent should, if possible, be thoroughly acquainted with the farmer's means and capital, as well as his general habits and disposition; and if this is insisted on, it will prevent, in many cases, tenants of inadequate capital and bad character from obtaining leases.

Few, or almost no farmers, keep *regular* accounts, and the consequence is they are often in the dark as to the true state of their affairs. A system sufficiently simple and concise might be easily contrived to answer all the ends in view; but, from prejudice or want of habit, it is to be feared the general run of farmers dispense with the keeping regular accounts.

Labourers.—Labourers are easily obtained here, either for piece-work or by the day. Their wages by the day are generally 1s. 4d. to 1s. 6d. in summer, and 1s. 2d. to 1s. 4d. in winter. These men are bred from infancy to all kinds of agricultural labour, and are generally expert in the use of the spade, scythe, &c. The real good farming labourer here cannot, with justice, be said to be in distress, for he always finds employment; and in this district the labourer has advantages unusual in some other parts of the country. For instance, his fuel costs only his own labour in cutting and preparing the peat; he, in every case, keeps a pig, and sometimes two; and the manure, ashes, &c., his pigs and cottage produce, are readily laid on by the farmers on their fallows for the cottager, who receives one crop of potatoes from his own manure. The great evil is early marriages: young men generally marry before they are twenty, and the females much sooner, and the alarming extent to which bastardy has increased in the country is a most serious evil. No labourers in these parishes possess any little property, such as a cottage and garden of their own. The poor-rates have not increased here for eleven years past, and the county rates are rather less now than at that period. The farm labourers are generally well behaved, cheerful, and obliging; and it is very rare indeed that any of that class ever appear to solicit aid from the parish vestries.

(From the Connecticut Courant.)

SPANISH SWINE.

It will be acknowledged that the agricultural interests of our country have been greatly promoted by the enterprise of individual gentlemen in importing foreign breeds of sheep, horses, and neat cattle; and by crossing them with the best breeds of our own; while, comparatively, little attention has been paid to the best breed of swine.

Among farmers, as well as most others living in the country, pork constitutes the principal article of their meat provisions through the year; and lard the principal ingredient in their pastry cookery. It is believed that farmers have generally erred by cultivating the large breeds. These by good feed will grow, but not fatten sufficiently for first rate pork until eighteen or twenty months old; and then, when butchered, will produce a greater proportion of bone and offal, and less lard than those of smaller frames and better forms. The best breeds are those which, with the same feed can be fattened earliest, say from six to nine months, and then made to weigh, when slaughtered, ten scores. This is easily done by careful and good feeding of the small breeds and good forms; whereas those of large and long frames require six or eight months feeding, which goes into their growth without adding much to their fat, and are not fit for the slaughter earlier than 18 or 20 months. This kind of pork costs the farmer too much. Aside from that, such pork is neither so rich nor so delicious as that fattened at a much earlier period.

While residing at Malaga in 1828, I became convinced that the Spanish breed I saw there was the best and most profitable I had ever seen. These swine are remarkable as well for the smallness of bone as for symmetry in their form. They are black; but when butchered the skin is as white and delicate as those of our white breeds. I cannot give a better description of them than will be found in the following, which, a few years since was published in an Albany paper.

"*Extract of a letter from George G. Barroll, Esq. American Consul at Malaga, (Spain) to a member of the Albany County Agricultural Society.*"

"As an American, I am happy to observe enlightened men forming societies in the various parts of the United States, to promote the great interests of Agriculture. I shall transmit to you the different kinds of wheat growing in this kingdom. * *

"The sheep of this part of Spain are not better than those of America. If you can induce the yeomanry of America to discard the long sided hungry breed of hogs; and substitute those of Spain, you will confer an immense service on your country. They are seen in droves all over Spain. They subsist in summer on weeds, and with a little corn in autumn become astonishingly fat, and make the most delicious pork in the world. I will send you a pair, and shall be happy on all occasions to serve your views."

On leaving Malaga in Jan. 1829, among other articles for *ship stores*, I procured a pair of this breed with a view to introduce them into this state. But on approaching the American coast in February, in a heavy gale of wind, the pigs with many other things were swept from our deck and lost. Since my return I have written to Malaga, and, by the kind aid of a friend there, have procured another pair of the same breed.

They have safely arrived, and in good order.—From these (prejudice laid aside) I confidently believe our native breeds of swine here may be greatly improved. It is hoped that agricultural gentlemen in the vicinity will feel disposed to afford such encouragement as shall give a fair trial, and I trust they will be fully satisfied with the result.

Windsor, Sept. 8, 1831. Samuel Woodruff.

SEA-WEED, &c.—MANURE.

Mr Smith: *Westmoreland Co. Va. Sep.* 17, 1831.

I have to return my thanks to your correspondent, "Cornplanter," for the prompt and obliging manner in which he has responded to the inquiries made by me, in my last communication. I am much instructed, and encouraged in the course which I had determined to pursue by the facts which he has disclosed. But I am a young and inexperienced farmer; and most of my time, moreover, being devoted to public and professional pursuits, I have but little opportunity, except in occasional intervals of leisure, of attending to the practical details of agriculture, or of acquiring by personal observation that minute knowledge, which is so essential to successful husbandry. Your correspondent will I hope, therefore, excuse me, when I ask, not only for my own instruction, but also for the benefit of some of my neighbours, who are equally uninformed, and have, moreover, inveterate prejudices to subdue, that he will favour the public with another essay, in which more detailed information may be given. I have, myself, not the least doubt of the accuracy of the statement that there are instances of more rapid improvement on the Eastern Shore of Maryland, from the use of sea-weed, marsh mud, and Indian banks, than that afforded on the farm of the late Mr. Singleton, from shell marl. But there is no subject, on which there is so great a disposition to be incredulous, as in relation to agricultural improvements. And it is owing, in a great measure, to this very incredulity, that whilst improvement in the mechanic arts, and in the liberal sciences, and indeed in almost every other department of life, is rapidly advancing, agriculture, the most indispensible of all arts, is in many parts of the country, completely stationary. As an instance of this incredulity, I may state the fact, that when I commenced digging in the marshes for manure, I was regarded by my neighbours as a visionary enthusiast, equally as mad as one who should seek for perpetual motion, or the philosopher's stone. The negroes were amazed; the overseer expressed serious apprehensions that the land would be *killed;* and one of the lights of the neighbourhood in agriculture, completely confirmed his fears, by telling him that *he* had tried it, and he had enough "dead land" already, without attempting to "kill any more." It was in vain that I quoted the high authority of the American Farmer, and Judge Johnson; nothing could convince them of the efficacy of marsh mud. I had the satisfaction, however, in the course of about two months of seeing prejudice and incredulity completely subdued. Upon visiting my farm, I was met by the overseer with a smiling countenance, and informed that he was beginning to be convinced that the mud might be of some service; for the weeds were much higher upon the land where the mud had been put, than upon that adjacent to it, which was originally much better. And upon visiting it, a few days ago, I found him entirely convinced by a thick growth of crab grass, upon the land covered with the "marsh," whilst the surrounding vegetation was much less luxuriant.

But to return from this digression; your correspondent may remove the doubts that are now entertained, as to the practicability of manuring on an extensive scale, and perhaps stimulate to exertion many who are slumbering in indolence by stating the extent of the improvement effected upon a few particular farms, by the use of the means referred to; the condition and quality of the soil before the improving process was commenced; the amount of labour and capital expended; the crops made upon the land formerly, compared with its present productions; and whether the use of these means is supposed to have had any *peculiar* effect in adapting the soil to the growth of the beautiful white wheat for which the Eastern Shore of Maryland is so justly celebrated. This information in the community in which he resides may seem entirely unimportant, but he may be assured that to a large portion of Eastern Virginia, it is calculated to be of vast service. We have here a soil originally, fertile, but much impoverished by a long course of barbarous cultivation. The means of resuscitating are at hand, if the public attention were only turned to them. And no greater service could be rendered to the cause of agriculture, than to convince the farmers in this part of the country of the natural advantages which they possess. They would thus be urged, if not by necessity, yet by reason, to exertion; with the hope not only of securing a competence, but of accumulating wealth, and by the desire which the loftier considerations of patriotism might inspire, of improving, fertilizing, and adorning their native land.

I fear that I have trespassed too far already upon the politeness of your correspondent, but I must ask information on one other subject. Can the "rotted marsh" found in the natural "compost beds" of which he speaks, be applied with safety or advantage immediately to a growing crop? Or does it require exposure to the atmosphere before it is fit for application? I am induced to make this inquiry because, in pursuing the instructions of Judge Johnson, in relation to marsh mud, I had applied a quantity of this "compost" (of which I have inexhaustible beds) early in the summer to land which I intended to *fallow* for wheat, and I was surprised to find contrary to my expectations, that the vegetation was greatly advanced, almost immediately upon its application; and at this time the land exhibits unequivocal indications of very great improvement. I was led to infer from this circumstance, that Judge Johnson's instructions might have reference to a subject entirely different; and reasoning from analogy I concluded that this manure might be beneficial, when applied fresh to growing crops. But all arguments from analogy are more or less fallacious, and I should be much better satisfied with the experience of your practical correspondent.

POTOMAC.

(From the New York Farmer.)

THE COUNTRY FARMER.

Mn. FLEET,—My work, this morning, has been rather protracted, so that you may perceive it, in the trembling of my blistered fingers. Yet, sir, this is the only way to discipline the mind, in actual culture, so that its instructions may be of any use to others. The school of knowledge, is a school of labor. While I was busy with my hoe in the garden, long before the sun peeped over the hills, I heard the notes of our *family* harp, and am now prepared to come in-doors, and complete my promised sketch of the labors of a household of husbandry. The men and boys have all had their breakfasts, a fine dish of baked beans, with a square of old pork on the top of the dish; the teams have been fed with chopped hay and rye-meal, moistened, and all have gone off to their labors in the field, and I have four hours to devote to you.

Wool and flax, duly prepared to their hands, sets all the energies of my in-door household in action. Two pieces, at least, of woollen out-side clothes, must be prepared for our own use, good, substantial homespun, one for us, and one for the manufacturers, besides flannel, for under garments, and for bedding. All they make, more than this, is their perquisite, for laying up such things as may be wanted, by-and-by. Stocking yarn, and stockings keep the little fingers in business; with which, besides supplying all our own wants, in this way, they get a good many sixpences, by sale of these articles, and have always something to help others with, who need, and deserve help. Something has to be done, rather more frequently than I could wish, towards keeping up the necessary supply of carpeting, and they are now engaged in that way. The weaving is to be done at Hudson, but they mean to send yarn enough to make all their carpets, and pay for the weaving. So, you see, I cannot complain. One yard, I know, and by experience, of the carpeting they made a few years since, is worth two, for service, compared with the best that is "made for sale." Some of our acquaintances have adopted the opinion, perhaps on the persuasions of the factory folks, that it is cheaper to purchase their carpeting, and save all this "fuss of spinning, dyeing, &c." as they call it: but such farmers are not farmers, and will, sooner or later, discover this, and to their sorrow. We know many such, but it is pride, Mr. Editor, which gets the better of their understanding. At all events, we are, and mean to be, farmers, out-doors and in-doors, at home and abroad. By-and-by, when I shall have disposed of the groundwork of the work of the farm, we will come to the education of a farmer's family, upon which much may be said.

Butter and cheese, Mr. Fleet, as I hope you will remember, are essential articles on the table of the husbandman, as well as in supplying that which keeps all the wheels in order, even this old "fly-wheel of the farm." To be sure we do not use so much money as some folks, and therefore we have the more for use, when the wet day comes, as come it will, to all men. The dairy, and I am sorry to say it, atattracts much less general attention, in this state, than it deserves. A well managed dairy, is among the most profitable of the various parts of a husbandman's business. That is, on a suitable farm, a matter that will be discussed hereafter. Our dairy is small, an appendage, a sort of family convenience, because our farm is not adapted to any thing more; but it supplies us with plenty of butter and cheese, of good quality, besides some dozen of fine cheeses for our friends in town, and at a good round price. With some people, you know, a cheap thing is a vulgar thing, which does not happen to be our notion, and so we are willing to let others have their own way, as we have ours, always honestly speaking our real sentiments. Town notions, at any rate, will not do for the farm-house, where living is to be made by farming.

Taking in the business of a whole year, soap is to be made, hard and soft; candles, wick-yarn, and a supply of flax thread; bleaching to be attended to, dyeing, pickling, and something in the form of preserves, to say nothing of herbs, for cookery and medicine, besides dried fruits, and some pumpkins, for yankee pies, all which must receive attention at the right time, as well as the every day concerns of the household. Bonnets, also, for which the straw must be cut, *to a day*, in order that the girls may save a good many dollars, and *learn how* to save them, by the dexterity of their own little fingers. The girl that cannot, or will not, make her own bonnets, either from straw braid, or any thing else, is not fit to be the wife of a farmer, and much less to have the education of the children of a farmer's family.

We use some "printed goods," as they now call calicoes and chintzes; some cotton shirtings, and sheetings, and muslins, which come in by purchase, but always from the surplus of the household. We use none, however, except of American fabric, for which the factory folks are always glad to get the things of the farm in exchange, a business that accommodates all parties, and is, besides, conducive to national prosperity and the public good. The body is preserved in health, by a due circulation of the blood, toward which their labor contributes so much. So, also, in the body politic, the community, the state, or commonwealth, where the fruits of industry and enterprize have free action, all the energies of all the members are stimulated into vigorous activity and healthfulness, and that which is salutary to each is sure to be to all. There is nothing of that narrow policy of exclusive selfishness, in all this, which would set the dairy farmer at enmity with the grain farmer, the producer against the consumer; nor is there, in the principles of the real farmer, whether he raise pork, beef, grain, or cotton, rice, indigo, or tobacco. Whatever, in short, is best for the greatest number of individuals, is best for the whole, and therefore for the public. The Virginian does not want to eat all his tobacco, nor we our wheat. Shingles, and wooden dishes, produced on the mountains, would make poor food; but the grain they exchange for, and the meat, produced in surplus, elsewhere, sustain the foresters, and form indispensable articles, every where, though these, only produced to excess.

"Sprung a leak!" the sugar tub sprung a leak! so the children thought, but it was only that the tap at the bottom had been pulled out, in order to drain off the molasses, or syrup, from our last remaining tub of maple sugar. This occurrence reminds me of something that was probably omitted in a previous number, for the out-door folks of our farm, the men and boys, make this excellent and delicious sweet, from our very ample sugar orchard, abundance for the use of the whole household. One hundred trees, have produced us 600 lbs. a year, besides a barrel of maple molasses, and two or three of vinegar, from the latest running of the sap. This makes work, however; but it comes on in March, when we have time to attend to it, and by which time the boys are glad to get out of the school-house, and open the summer campaign by a "demonstration" upon the maple orchard.

When I was a farmer's boy, I felt all this. Our tap works were in a hollow of the breast of the "*hog back*" ridge or hill, and never were there happier meetings, or happier comings, than occurred in that grove of gigantic sugar maples. There were a few scattered hemlocks, and belts of evergreens on three sides, in which the *whet-saw*, as we used to call it—a mocking-bird,—was very industrious, and very musical, while the owl delighted to hoot, and scream at us, around our evening fire. I well remember the glare of light, the wild and lovely scenery, the music of the night birds, and the occasional *parties*, at *sugaring-off-times*, when all the boys and girls came together, to eat, play, and be happy.

ON WORMS, SLUGS, AND THEIR DESTRUCTION BY MEANS OF COMMON SALT. BY C. W. JOHNSON.

Great Tolham, Essex, March 7, 1831.

Sir,—A very considerable experience fully warrants me in the assertion, that, if any growing crop of corn, attacked by the worms or slugs, is salted at the rate of six or seven bushels per acre, the destruction of the vermin will be complete. It may be sown by hand, from a common seed basket; and there is not, let the farmer be assured, the slightest danger to be dreaded from the salt injuring the crop, but quite the contrary effect will be apparent. I have seen twenty bushels per acre applied, in March, to a crop of wheat with decided advantage. Neither let the farmer imagine that the use of salt, for that purpose, is an untried scheme. Let him take a single worm, the largest he can find, and put on it a single grain or crystal of common salt; let him do the same by the common slug which haunts his fields; and let him judge with his own eyes of the result,—the vermin will both perish immediately. And, again, let me request him, when he is convinced of the power of salt, not to commit the usual blunder of applying the remedy to the whole field, but let him, on no account, omit to leave a portion of the crop unsalted; and then, the more the worms abound, the greater the number of the slugs, the more will the benefit from the salt be apparent.

As regards its application for wheat attacked by vermin, I will not withhold from the public a communication with which I was favored from Jacob Busk, Esq. of Ponsbourn Park, in Hertfordshire, Feb. 16, 1831. He tells me—

"It is true that I have lately made a pretty free use of salt, having applied it, in the course of this and the last season, as a top-dressing to nearly two hundred acres of wheat; but my attention has not been particularly turned to what may be called its fertilizing qualities, having chiefly, and almost exclusively, had in view the destruction of worms and slugs, with which the land was very much infested.

"This object is very satisfactorily accomplished. Some small parts of our land are light and sandy, but the generality of it is stiff and strong, well adapted to the growth of beans and wheat.

"In applying the salt, little attention was paid to the quality of the land, nor was the season of the year much regarded; but those times and those spots were selected where the number and ravages of the vermin seemed most apparent, and, in every situation and at every time, the effect appeared equally beneficial.

"A little more experience may suggest some more accurate rule as to season; but I am inclined to think that the earliest will, in general, be found the best: at any rate I would avoid sowing, if I possibly could, immediately before a fall of snow, as snow produces, on places recently sprinkled with salt. an unpromising appearance, which requires some farther investigation. Perhaps the best mode may be, what we have very satisfactorily, in some instances, tried—to sow it on clover leys, and on bean stubbles intended for wheat, just before they are ploughed.

"If, however, there is some doubt as to the most eligible quality of the land or period of the year, there is none as to the fittest state of the weather and time of the day. An opportunity should be selected when the weather is mild and moist, but not rainy—when the land is damp. but not wet; and salt should never be sown when the sun is shining, but either early in the morning, before it rises, or late in the evening after it has set. Late hours we have always chosen, and, employing our ploughmen or other constant labourers, have got the work performed with a small additional wages, without interrupting at all any other business of the farm. They sow it out of the ordinary seed shuttle, at the rate of about four or five bushels to the acre. Ten or twelve men, moving at once, get over a large piece of land in an evening, and are easily drilled, so as to proceed with regularity and despatch, by a little care on the part of the superintendent.

"In the morning, each throw may be distinguished by the quantity of slime and number of dead slugs laying on the ground.

"The finer in grain and the drier the salt is the better. What we have used has been procured from town, at about 10d per bushel, which brings the expense, with carriage and spreading, to about 6s. or 7s. per acre.

"The positive advantage I cannot state accurately in figures, but I am confident it has, in every instance, been considerable, and, in some fields, it has certainly been the means of preventing the total destruction of the crop."

With regard to salting oats, barley, &c. solely as a protection from vermin, my experience has been very limited; but I have invariably found the effect of the salt to be the same as upon wheat. My valued correspondent, J. Walker, Esq. of Benwell, near Newcastle, in a letter not long since received, says—

"I cannot, however, omit that, last season, the oats in this neighborhood were much troubled with grub; I, therefore, sowed from six to eight bushels of salt per acre, and my crop was fifty bushels, whilst that of my next neighbor was not ten, per acre."

And in Oxfordshire, in 1828, on the farm of Mr. John Slatter, of Draycote, six bushels of salt were applied by hand to a field of oats much infested with slugs and worms in the month of April; and, although an adjoining field, equally attacked by the same vermin, had its crop of oats completely destroyed, the salted crop was entirely saved. The after effects, too, of thus destroying the slugs, worms, &c. are very beneficial, for the remains of the vermin absolutely become a manure to the very plants on which they once fed; and the effect and number of such predatory vermin is much greater than is commonly imagined. Unless the crop be partially destroyed, the farmer is seldom induced to notice their ravages, although, in minor cases, the unseen loss is very considerable, and much more important than it is usually estimated.

In a former letter, inserted in your valuable Journal, I, at some length, entered into the question of the advantages of salt as a condiment for horses, cattle, and sheep, either in their corn or in hay: and, for this important purpose, I have the gratification of saying that its use has been steadily increasing, and that too, in all weathers, and in good or in adverse times. As a manure too, I shall on a future day, have to communicate to your readers much that is important as regards its employment as a fertilizer; but that is a question far too important to be made a theme for only a portion of a single communication: and, besides, it is, unfortunately for our country, the most difficult branch of the research. As a fertilizer, however, its employment is steadily increasing; and where experience shall have given the farmer still more confidence, it will, I am quite sure, be considered as by far the most important agent in his possession.

In conclusion, Sir, let me again implore the agriculturist—whose crops are attacked, or suspected even of suffering, by the worms or slugs—to make a trial of the value of common salt, if it is but upon an acre; and, if he attends carefully to the instructions of those whose labours I have reported in this already lengthened letter, he will not only benefit himself, but the land which gave him birth.

Let me, also assure your numerous readers, that I shall always be ready to give the most zealous attention to any letters, reports, or experiments, in which I can be of use in this important research. Eleven years have elapsed since my Essay on Salt was published; but not a single season has passed away without some additional testimonial to the importance of the subject; and although, in this period, I have—in Mr. Curwen, Sir Thomas Bernard, and Mr. Parkes—lost three of my most talented and most zealous assistants, yet still. I am proud to say, the use of salt as an agricultural agent, in spite of prejudice and inattention, is proceeding most triumphantly. I would suggest that it would be of incalculable service, at this period of the year. if the local country papers were to quote this letter from your valuable Journal.

[*British Farmers' Journal.*

HORTICULTURE.

(From the Gardener's Magazine.)

On Planting Fruit Trees on Poor Soils and in Exposed Situations.

Sir,—In these times of distress, it becomes the proprietor of every piece of land to make the most of it; and it is the duty of those possessed of knowledge or experience in farming or gardening, to show to others how it may be cultivated to the best advantage. Under this consideration, I have been induced to send you some observations relating to situations very suitable for orchards, which have been hitherto considered the most inimical for the purpose. I fear that it is difficult to write any thing for the Magazine that will give satisfaction, and many may reject what I am now going to recommend; but let it be remembered that a single truth is worth five thousand arguments or opinions, and those who cannot be satisfied with reasoning may sometimes be convinced by facts.

All the authors that I have read, who have written on orchards, have recommended deep soils on sheltered places; but much experience has convinced me that bleak and barren sites, in many instances, will be found equally good, if not better. Some of the most old, healthy, and fruitful apple trees I ever saw grew in an exposed quarry; where, when they first planted the trees, it is difficult to conceive how they could cover the roots. I have also resided many years in the vicinity of an exceedingly fruitful orchard, situated on a sterile sandy bank facing the north-east, the soil of which was so shallow and poor that common vegetables could scarcely live upon it; yet the crops of fruit were uniformly fine. I could mention various others, but this may suffice to show that much good may result from planting such places. Many of the isolated cottages of the poor stand upon the sides of glens, where considerable portions of ground lie by them covered with nothing but weeds and brambles, which might be advantageously employed as fruit gardens. There are many steep surfaces, old quarries, and rocky places, no matter how bleakly exposed, that cannot be otherwise cultivated, which would, I am confident, make eligible situations for orchards. Trees so circumstanced come into bearing much earlier, live long, and seldom moss or canker. They cannot possibly generate too much sap; whilst robust trees in rich deep soils are like over-fed human beings, whose impure blood covers their skin with scabs and ulcers. It has been proverbially said of old trees, when they grow weak, they bear themselves to death; and that they will bring fruit, in defiance of the weather, when strong healthy trees in the same seasons will be quite barren. This arises, in my opinion, from better ripened wood, and, consequently, better farina and parts of fructification; and not, as frequently supposed, from the actual debility of the tree.

I have long been satisfied that the blossoms and young fruit of apple and pear trees suffer more from the larva of the Phalænæ than from wet or frosty weather. These trees, in well sheltered places, are generally found much infested by caterpillars; whilst, in bleak and exposed orchards, they are comparatively free from them. Apple trees are often greatly injured by the nut bushes and thorn hedges that are planted to shelter them, because they entice Phalænæ. I remember some years ago, when passing round the Vauxhall forcing-garden with the late Mr. Andrews, the fruit of several pear trees which had been well loaded had all fallen off: this he attributed to bad weather. I offered to convince him that it was not the case; and cut a few fruit open, each of which contained a maggot. Mr. Andrews felt offended at this, and said that gardeners called there only to ridicule his things, they knew nothing in the country whence they came, but to drink tea and ale in the servant's hall, and crack jokes with ladies, maids and coachmen.

These few observations I consider to be of some importance to horticulture, whatever opposition they may meet with from your readers. It may, however, be objected that they are not applicable to Scotland or the northern parts of the kingdom; but this I know, that as fine apples are grown in the cold counties and outskirts of Scotland as are to be met with in any part of England. I am, sir, yours, &c,

Dec. 21, 1830, R. Hiver.

Potatoes.—In digging potatoes in fair weather care should be taken to knock off as little of the dirt as possible, and not to expose them to drying winds and a burning sun. Put them immediately into the cellar and cover them with earth not wet, nor very dry.

(From the Gardener's Magazine.)

On the Cultivation of the Fig.

Sir,—I have observed some notices about fig trees in your Magazine, but very little about their culture or management. Allow me, therefore, to send you a few remarks on the production of that most salubrious fruit, the fig. I have now had the management of fig trees at this place for upwards of fourteen years, and will venture to say that there are none finer in Scotland. Indeed, I am warranted in saying so by the Secretary of the Caledonian Horticultural Society, who has seen the fruit gain the Society's silver medal twice in the course of four years. The trees are situated against a common wall, with a south-east aspect, the length of wall which the three oldest trees cover is 76 ft. by 14½ ft. high, with a cope which projects 15 in.; and is set at an angle of 45°, or nearly. The border consists of a deep black rich loam, rather light. The kinds are, the brown and black Ischia; the former I consider the best fig, for it ripens much more easily, grows much larger, and is better flavoured than the black. I have known many of them to weigh from 6 to 7½ ounces each. I have seldom known these trees to come short of a good crop, except this year, which I impute to severe frosts in April and May, and the cold wet summer throughout, which caused the most of the fruit to fall from the trees; however, those that remained of the brown Ischia have swelled and ripened well.

Now, sir, the following is my mode of managing fig trees. About the middle of November I prune and nail them, being careful to cut away all those shoots which have reached the top of the wall, on purpose to give those place that are in their rear; by this means I keep up a supply of young wood through the whole tree, from bottom to top, laying in the branches thin and regular, because, if too thick, they will do no good. Having finished the pruning and nailing, I proceed to the forests, and there procure a quantity of spruce fir branches, and with them I cover the trees all over, one branch thick; those branches afford sufficient protection to the young shoots all winter, and in the spring their foliage begins to drop off by degrees, so that the trees get naturalised to the season by a process much nicer than the hand of man could effect by any other means. By the 10th of May every leaf has dropped from the fir branches, just when the fig begins to put forth her leaves. I then remove the skeleton branches, and give the trees a complete washing with water, by means of the garden engine, to clear them of all the decayed leaves of the fir which lodge about the trees and crevices of the wall. Silver fir will not do, because they retain their foliage much longer than the spruce. In July I proceed to the summer pruning and nailing; I then cut away all those shoots which I consider will not be wanted to furnish the tree at the winter nailing. the remaining young wood I nail close to the wall, and expose as much as possible the fruit to the sun. Now, in regard to the watering of figs, which I consider the most essential part (for it is my firm opinion that they cannot be brought to perfection without a plentiful supply of water at the root,) I once heard a nobleman say that he always thought the fig tree to be partly aquatic. I was more confirmed in this opinion after perusing a treatise on figs written in the south of France in the sixteenth century (if I recollect right,) the author of which says, "we place small cisterns under the fig trees, and into them we put the ends of a quantity of worsted threads, and then conduct them through among the branches, bringing the other ends down to the ground, a little lower than those in the cistern; and by this means the capillary attraction is set to work, diffusing moisture among the branches, and also dropping down upon the roots." The author concludes his remarks by stating that fig trees should never be put into the hands of a sluggish gardener. The above process was exemplified in the fig trees at this place; for, until these last two years, the wall which they occupy was the back wall of a stable, now cleared away, the roof of which always rained on the trees when the clouds rained on it. Consider the quantity of water that fell on these trees in the course of a year, and also consider the fine fruit which they produced. Now the case is quite altered; for, in place of being exposed, as formerly, to plenty of water, they are completely shut out from it by the cope which I have already described. This cope was recommended by Sir Alexander Hope, to whom we are much indebted for many valuable discoveries in horticulture. I did not much like it at first, but am now convinced that it is of use during the ripening season; namely, August, September, and October; and it only adds to my labour during the spring and summer months, in attending to them with water, which ought to be as soft as possible; soapy water, from the washing-house, being preferable. I said above that we had lost our crop this season, owing to cold and wet, I should only have said cold, for we have not had too much wet for fig trees if we had had heat along with it. The age of the fig trees in question is not known, but I am told by some old residents that they were large trees in 1746.

I am, sir, &c. William Pearson.

Ormiston Hall, Oct. 22, 1830.

On providing a Succession of the best-flavoured Gooseberries.

Sir,—I happen to be possessed of so vulgar a taste as to think a good gooseberry, eaten fresh from the tree, and in perfection, one of the very best and most grateful fruits that can be produced in this country. It is, moreover, an abundant and a wholesome fruit, so that it may be indulged in freely without stint, and without fear of any ill consequences. Being, like your correspondent, Mr. Vallance (vol. vi. p. 727,) a great admirer of the gooseberry, I entirely concur with him in the sensible plan which he is anxious to adopt, of cultivating different kinds, "that will come in succession from a very early to a very late period," in order that the fruit may be enjoyed for the longest possible period. Indeed, it had repeatedly occurred to me, previously to my seeing his communication, that although the best sorts are (as it seems to me) few in number, and may be reduced to a very short list, still, any variety which ripens its fruit either very early or very late, is, if on that account only, a desirable acquisition, and worthy of cultivation, in as much as it prolongs the time in which the fruit is in season.

Much confusion and uncertainty seem to prevail about the name of gooseberries; many different sorts often passing under the same names, and again one and the same sort under different names. I am by no means certain that I know the names of any correctly. There are two kinds which, in my estimation, are preferable to all others for dessert, and with which alone I am satisfied so long as they remain in season. The two are known to me by the names of the champagne (or rumbullion[*]) and the green gage. Being doubtful, however, of the correctness of these names, and uncertain whether the sorts may not frequently pass by some other, I will endeavour to describe the fruits themselves. The first, the champagne, bears a moderate sized berry, of an oblong shape, and exceedingly high flavour, hairy, dark red, almost black when dead ripe, at which time it is often suffused with a bloom like that of a plum. This, which is a very common sort, is, to my taste, by far the best gooseberry I am acquainted with; it is also an exceedingly good fruit for culinary purposes, and has the merit, too, of being a very great bearer. The bush will grow to a large size, with strong upright shoots, invariably more or less perpendicular like those of an osier. The fruit of the second sort (the green gage) is rather small, round, hairy, of a dull green colour, exceedingly sweet and luscious, and partakes of the flavour of the plum from which it derives its name. This is by no means so great a bearer as the champagne; and the berries, though covered with a very firm skin, are unfortunately particularly liable to crack with rain. The bush is low, with shoots having a tendency to arch towards the ground. Neither of the above sorts are remarkable for being early or late, both ripening their fruit about the usual gooseberry season. I will mention a third sort, which, though not to be compared with either of the above described in point of flavour and intrinsic merit, is yet valuable and well worthy of cultivation, from the circumstance of its coming into season the latest of any I happen to be acquainted with. I never heard any name assigned to it; but it may perhaps be known to cultivators by the following brief description: the berry is of a moderate size, larger than the champagne (and quite as large as any gooseberry need be,[*]) rather oblong, smooth, and assuming a bright red colour as early almost as any begin to turn, but not ripening nor attaining its full flavour till late in the season, when it becomes of a very dark red, approaching to black; the skin is firm and tough; and whether it be owing to this circumstance, or to its ripening later than most others, it is generally the last gooseberry that is attacked by the wasps, and even when full ripe will often remain almost untouched by those pests after all others have been devoured. The bush, which is a great bearer, forms arching shoots.

Should your correspondent Mr. Vallance be desirous of cultivating either of the above gooseberries, which I must add, are neither new nor (I believe) uncommon, I shall be happy to supply you with cuttings for his use. I have heard much in praise of the Warrington; but what I have received under that name is in every respect so inferior a fruit, that I can hardly believe it to be the true one. There is also another kind, which, from its being a late ripener, is worth notice; the berry, in point of shape, colour, and hairiness, may be said to be a gigantic modification of the champagne, but is far inferior to it in flavour, and scarcely of so deep a red; it is, however, a useful gooseberry, and a good bearer. The shoots are not straight and upright, like those of its prototype, the champagne, but are more inclined to the arching form. I may add, that there are some smooth white gooseberries, of a very sweet and luscious flavour, which ought to find a place even in a limited collection. Yours, &c. B.

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[*] Query Rambouillet?

[*] I shall, perhaps, incur the disapprobation of the *Fancy*, and such as frequent gooseberry feasts, when I make the remark, that the large prize gooseberries (crown bobs, roaring lions, top sawyers, &c. &c.) are for the most part very inferior to the smaller ones, for the table at least, if not for preserving also, and are calculated rather to gratify the eye than the palate. In this opinion I am not singular; for many of those who cultivate the large sorts are yet ready to acknowledge the superiority of the smaller ones. I once knew an old nailer in Staffordshire, a great florist, who appropriated a considerable portion of his garden to the cultivation of gooseberries, by which he made a surprising sum of money in the year,—more, indeed, than he liked to acknowledge,—selling the fruit by the pennyworth to people who came to the garden for the purpose of eating it. Observing that almost all his trees were of the large-berried kinds, I asked him why he grew such large sorts, for that they were not half so good to eat as the small ones. "You are right, sir," he replied; "I know it: but then these big ones give less troble in gathering; they fill the measure soonest, and they do well enough for the *sawnies*." Of course I had nothing further to urge against my friend's practice, as his gooseberries, like Peter Pindar's razors, were intended purposely for sale. I would, however, strongly recommend that Virgil's advice as to the size of a farm should also be adopted (*mutatis mutandis*) in the choice of gooseberries, at least when they are cultivated for private use.

"Laudato ingentia rura,
Exiguum colito."
"Praise thou large farms; a small one choose to till."
Trapp's Translation.

Coventry, Dec. 20, 1830.

Among white gooseberries, no gardener should be without Woodward's Whitesmith, which, although neither smooth nor small, is of excellent flavour, and bears abundantly; it will moreover, hang long on the bush.—*J. D. for Cond.*

(From the Daily Chronicle.)

HYACINTHS.

As among the amateurs of the Hyacinth, there are many who are ignorant of the care which is necessary for the cultivation of this plant, whether in the open air, or in the chamber, it will no doubt be acceptable to them to receive some instructions respecting the treatment necessary to be pursued, in order to bring this beautiful flower to perfection.

Of Hyacinths in the open air.—In this case the flower requires a dry soil, more or less sandy, in a bed which, during the winter, is elevated a foot or a foot and a half. The bulbs should be placed in the ground during the month of September or October, at the depth of about five inches, and to preserve them from the cold, should be covered with the leaves of trees three inches in thickness; this covering should be removed in March, and replaced with a covering of old tan of the thickness of an inch, to preserve the bulb from frost. After flowering, and when the leaves begin to grow yellow, the bulbs should be raised and preserved in a dry airy place until the following September or October, when they should be again planted.

Of the cultivation of the Hyacinth in Chambers.—For this purpose China vases are to be preferred. The common earthen flower pot may also be used; but, in this case, the old are to be preferred to the new, as the small fragments which so easily detach themselves from the latter, are apt to injure the roots. The earth should be light and sandy, and the bulb buried in such a manner, that merely the point shall appear above the surface. The pot should then be planted in the open air, in some sunny spot, to the depth of three inches; then they should be covered to the depth of three inches with leaves, that they may be easily removed in case of severe cold. In November they should be removed to the house, and placed in a sunny spot; they should be a little watered, but so little, that the surface of the earth should be rather dry than moist; the water to be contained in a saucer, in which the pot should be placed. Those who are afraid of injuring the vases, by burying them, should at least leave them in the open air as long as possible, observing strictly what has been said relative to the watering.

The best time to plant these bulbs is in September or October.

The Narcissus and Tulip requires nearly the same treatment; the lesser orifice, however, of the tulip bulb, must be opened a little before planting.

To succeed in the cultivation of the double Jonquile, it is necessary to plant them in pots, after they put out their roots and leaves in open air, and then to remove them to some airy and sunny place; the pots in a saucer, which should be always full of water, as this flower requires great humidity. The best time for planting the Jonquile is in August or September. Flora.

To make Rice Bread.—Boil a pint of rice soft; add a pint of leaven; then three quarts of the flour; put it to rise in a tin or earthen vessel until it has risen sufficiently; divide it into three parts; then bake it as other bread, and you will have three large leaves.

When angry, count ten before you speak, if very angry, a hundred.

RURAL ECONOMY.

(From the English Quarterly Journal of Agriculture.)

FOOT ROT IN SHEEP.

"Wherever we find rich old pastures covered with moss plants, or where the hoofs (from the softness of the surface by the quantity of grass upon it,) are prevented from being worn down, the disease will be found to prevail; and in these situations where the soil is rich and moist, it will be found more particularly increased. For similar reasons, it will prevail more especially where there is a superabundance of grass; and on dry old pasture it will be found to proceed most rapidly at the season when the dews are greatest. When it occurs on light sandy soils, the dry seasons will be most liable to produce it.

"As this disease arises in consequence of the hoofs not being exposed to sufficient friction to wear them down, or keep them in their proper state, or where their natural growth is increased by the nature and, moisture of the ground, the hoofs of all the flock should be regularly rasped or pared at short intervals, say from eight days to a fortnight, according to the rapidity with which a particular pasture produces the disease. In certain situations, they might be made to travel upon a hard surface, similar to natural sheep tracks, or be folded in a place purposely prepared, upon which they could move about and wear their hoofs. For that purpose they should be placed in it every day.

"Driving the sheep along a hard road, for a short time daily, would have a similar effect; laying their tracks with gravel would also be beneficial. And, as an experiment, I would suggest to those whose lands are apt to produce the disease, to satisfy themselves by feeding an equal number of diseased sheep and sound ones together in a fold with a hard dry bottom: let that bottom be kept free from filth and moisture, and I have no doubt it will be found that, instead of the sound sheep becoming infected, the diseased ones will become sound, unless, indeed, the feet are so far destroyed as to require medical treatment; but, even in that case, the improvement will be more rapid than under other circumstances. By the means which I have stated, simple as they are, I have no doubt the foot-rot may be made to disappear from many of those places where it at present proves a great deterioration to the value of pastures.

"In conclusion, I may further add, that, while the rich pastures which are in the neighbourhood of Arthur Seat are very subject to the disease, that hill itself is not only almost entirely free from it, but if the sheep, when first infected, are removed from the low grounds to the hill, they soon get well; it, therefore, follows, that the disease may be prevented by adopting proper timely measures.

"I do not conceive it necessary to enter upon the cure of the disease. Suffice it to say, that the principal points to be attended to, are paring away the detached hoof, and dressing the surface with some caustic of which muriate of antimony is the best. But, as prevention is better than cure, I would recommend a strict investigation into the cases in each pasture, and having ascertained the true cause, the proper means of prevention will be readily suggested."

ADVICE TO COOKS.

The comforts of life depend in a very considerable degree on the character, abilities, and industry of those who are employed in domestic affairs. We select the following from the recent edition of the Cook's Oracle.—*Ed. N. Y. Farmer.*

Receive as the highest testimonies of your employer's regard, whatever observations they may make on your work: such admonitions are the most unequivocal proofs of their desire to make you thoroughly understand their taste, and their wish to retain you in their service, or they would not take the trouble to teach you.

Enter into all their plans of economy, and endeavor to make the most of every thing, as well for your own honor as your master's profit, and you will find that whatever care you take for his profit will be for your own.

Many things may be re-dressed in a different form from that in which they were first served, and improve the appearance of the table without increasing the expense of it.

The best way to warm cold meat is to sprinkle the joint over with a little salt, and put it in a Dutch oven, at some distance before a gentle fire, that it may warm gradually; watch it carefully, and keep turning it till it is quite hot and brown; it will take from twenty minutes to three quarters of an hour, according to its thickness.

Take care of the liquor you have boiled poultry or meat in; in five minutes you may make it into excellent soup.

No good housewife has any pretensions to rational economy who boils animal food without converting the broth into some sort of soup.

It will be to little purpose to procure good provisions, unless you have proper utensils to prepare them in: the most expert artist cannot perform his work in a perfect manner without proper instruments; you cannot have neat work without nice tools, nor can you dress victuals well without an apparatus appropriate to the work required.

The honesty of a cook must be above all suspicion: she must obtain, and (in spite of the numberless temptations, &c. that daily offer to bend her from it) preserve a character of spotless integrity and useful industry, remembering that it is the fair price of independence, which all wish for, but none without it can hope for; only a fool or a madman will be so silly or so crazy as to expect to reap where he has been too idle to sow.

If you fear meat, &c. will not keep till the time it is wanted, par-roast or par-boil it; it will then keep a couple of days longer, when it may be dressed in the usual way, only it will be done in rather less time.

Dr. Franklin in his philosophical experiments tells us, that if game or poultry be killed by electricity it will become tender in the twinkling of an eye, and if it be dressed immediately, will be delicately tender.

To encourage the best performance of the machinery of mastication, the cook must take care that her dinner is not only well cooked, but that each dish be sent to table with its proper accompaniments, in the neatest and most elegant manner.

Endeavour to avoid over-dressing roasts and beef &c. and over-seasoning soups and sauces with salt, pepper, &c.; it is a fault which cannot be mended.

The chief business of cookery is to render food easy of digestion, and to facilitate nutrition. This is most completely accomplished by plain cookery in perfection; i. e. neither over nor under done.

If your mistress profess to understand cookery, your best way will be to follow her directions. If you wish to please her, let her have the praise of all that is right, and cheerfully bear the blame of any thing that is wrong.

It requires the utmost skill and contrivance to have all things done as they should be, and all done together, at that critical moment when the dinner-bell sounds "to the banquet."

"A feast must be without a fault;
And if 'tis not all right, 'tis naught."

But

"Good nature will some failings overlook,
Forgive mischance not errors of the cook,
As, if no salt is thrown about the dish,
Or nice crisp'd parsley scatter'd on the fish,
Shall we in passion from our dinner fly,
And hopes of pardon to the cook deny,
For things which Mrs. Glasse herself might oversee,
And all mankind commit as well as she?"

The best rule for marketing is to pay ready money for every thing, and to deal with the most respectable tradesmen in your neighborhood.

Give your directions to your assistants, and begin your business early in the morning, or it will be impossible to have the dinner ready at the time it is ordered.

To be half an hour after the time is such a frequent fault, that there is the more merit in being ready at the appointed hour. This is a difficult task, and in the best-regulated family you can only be sure of your time by proper arrangements.

With all our love of punctuality, we must not forget the first consideration must still be, that the dinner "be well done when 'tis done."

(From the New York Farmer.)

Hints and Receipts in Domestic Affairs.

Enjoyment is not found so much in luxurious as in simple dishes. Fried apples are better and more wholesome than expensive preserves.

In striving for the comforts of life, seek those that are least expensive. It is better to have your house furnished with comfortable than with costly things.

Exert yourself to overcome the difficulties attending your present business rather than enter into other pursuits.

Look frequently to the pails, to see that nothing is thrown to the pigs which should have been in the grease-pot. Look to the grease-pot, and see that nothing is there which might have served to nourish your own family, or a poorer one.

See that the beef and pork are always *under* brine; and that the brine is sweet and clean.

Count towels, sheets, spoons, &c. occasionally; that those who use them may not become careless.

As far as possible, have bits of bread eaten up before they become hard. Spread those that are not eaten, and let them dry, to be pounded for puddings.

Tortoise shell and horn combs last much longer for having oil rubbed into them once in a while.

A large stone, put in the middle of a barrel of meal, is a good thing to keep it cool.

Lamps will have a less disagreeable smell if you dip your wick-yarn in strong hot vinegar, and dry it.

Put new earthen ware in cold water, and let it heat gradually, until it boils,—then cool again.—Brown earthen ware, in particular, may be toughened in this way. A handful of rye, or wheat, bran thrown in while it is boiling, will preserve the glazing, so that it will not be destroyed by acid or salt.

New England rum, constantly used to wash the hair, keeps it very clean, and free from disease, and promotes its growth a great deal more than Macassar oil. Brandy is very strengthening to the roots of the hair; but it has a hot, drying tendency, which N. E. rum has not.

If you have a greater quantity of cheeses in the house than is likely to be soon used, cover them carefully with paper, fastened on with flour paste, so as to exclude the air. In this way they may be kept free from insects for years. They should be kept in a dry cool place.

Woollens should be washed in very hot suds, and not rinsed. Lukewarm water shrinks them.

Suet and lard keep better in tin than in earthen.

Suet keeps good all the year round, if chopped and packed down in a stone jar, covered with molasses.

When molasses is used in cooking, it is a prodigious improvement to boil and skim it before you use it. It takes out the unpleasant raw taste, and makes it almost as good as sugar.

There should always be a heavy stone on the top of your pork, to keep it down. This stone is an excellent place to keep a bit of fresh meat in the summer, when you are afraid of its spoiling.

Lime pulverized, sifted through coarse muslin, and stirred up tolerably thick in white of eggs, makes a strong cement for glass and china. Plaster of Paris is still better; particularly for mending broken images of the same material.

Beef tea, for the sick, is made by broiling a tender steak nicely, seasoning it with pepper and salt, cutting it up, and pouring water over it, not quite boiling. Put in a little water at a time, and let it stand to soak the goodness out.

Parsnips should be kept down cellar, covered up in sand, entirely excluded from the air. They are good only in the spring.

The purple paper, which comes on loaf sugar, boiled in cider, or vinegar, with a small bit of alum, makes a fine purple slate color. Done in iron.

A pailful of lye, with a piece of copperas half as big as a hen's egg boiled in it, will color a fine nankin color, which will never wash out. This is very useful for the linings of bed-quilts, comforters, &c.

Legs of mutton are very good; cured in the same way as ham. Six pounds of salt, eight ounces of saltpetre, and five pints of molasses, will make pickle enough for one hundred weight. Small legs should be kept in pickle twelve or fifteen days, if large, four or five weeks are not too much. They should be hung up a day or two to dry before they are smoked.

The salter meat is, the longer it should be boiled. If very salt, it is well to put it in soak over night; change the water while cooking.

The chuck between the neck and the shoulder, is a very good piece for roasting—for steaks, or for salting. Indeed, it is good for almost any thing; and it is cheap, being from four to five cents a pound.

If you want a common rice pudding to retain its flavor. do not soak it, or put it in to boil when the water is cold. Wash it, tie it in a bag, leave plenty of room for it to swell, throw it in when the water boils, and let it boil about an hour and a half.

THE FARMER.

Baltimore, Friday, Sept. 30, 1831.

Cheat or Chess.—Of all the popular errors of the world, probably the most singular and glaring is that current among farmers, that wheat turns to cheat—that an unpropitious winter, a continued northeast wind, or too much or too little snow, causes wheat to degenerate into cheat. It is in vain that you tell them it is impossible; that it is as easy for a beet to become a carrot, for an apple tree to become a pear tree, or an oak a chesnut tree, as for wheat to become cheat. The cause of this error is very plain;—farmers are too superficial in their observations—they are by no means wanting in observation, but they content themselves with looking at the surface of things. Man is also fond of the marvellous, and hence, any thing not palpable to the grosser senses, is more apt to be attributed to some magic influence, than traced through an intricate analysis to its true and natural cause.

Many persons do not believe that any intelligent person believes in the degeneracy of wheat to cheat; but this is an error. There are thousands of old experienced and intelligent farmers that believe it as thoroughly as they do that the planting of corn will produce corn. We have had many arguments with such men on the subject, and we always found them so well convinced of the correctness of their opinions that we abandoned the field after the first fire. A few days since, being anxious to obtain some fine seed wheat for a friend, and knowing that a very respectable farmer in our neighborhood usually had the kind we wanted, and that of the first quality, we paid him a visit. He had threshed and cleaned all his wheat and had it ready for market; "but" said he, "it will not answer your purpose—*the very hard winter has turned a great deal of it to cheat.*" But, said we, do you really believe that wheat turns to cheat? "Believe," he replied, "I not only believe it but I *know* it. There has not been a blade of cheat on my farm before for thirty years, and this summer my wheat fields were full of it, and there was none among the rye nor in any other field; how then could it get into my wheat field unless the wheat turned to cheat?" He is as intelligent a practical farmer as we have in Baltimore county. His argument was a poser; yet we ventured to suggest, that the cheat might have been brought to his wheat fields by *crows*, as the very hard winter drove thousands of these birds to the barn yards and fields in search of food, and they always select the naked spots in the fields; and as these spots, where the snow had been blown off in the winter, produced the cheat, this was most likely. And this view of the case was the more likely from the fact, that crows in winter are continually found in the roads scratching among horse dung and picking up any undigested seeds found therein. That we are correct in our theory of the introduction of cheat into wheat fields, we by no means assert, but it seems plausible to us. Cheat is frequently found around the fences in large town gardens, and it is quite common for crows to alight on these fences of a clear morning in winter—we have cheat in our garden, and there has not been a head of wheat grown there for thirty years if ever. We have seen cheat in all sorts of crops—in rye fields, corn fields, in clover fields, in meadows, in pastures, and even on the road sides in the wild woods—evidently deposited in the latter places by travellers' horses.

If any one entertains a doubt of the clear difference between the plants of wheat and cheat, let them examine them when they are in bloom and be satisfied;—bearing in mind, that however plants may change in some unimportant features, there are peculiarities in all of them that never vary;—these which enable us to distinguish at a glance whether in flower, in fruit, or barren, an apple from a pear tree, a cherry from a plum; rye from oats, corn from barley, and wheat from cheat.

American Silk.—The Editor of the American Farmer has had the pleasure within a few days, of receiving half a dozen skeins of sewing silk made by Miss Belinda Grigsby, of Rockbridge county, Va. She obtained the eggs of the editor of the Farmer last winter, with brief directions for their management; fed the worms on the common mulberry of the adjacent forest, reeled the cocoons with a common country cotton reel, doubled and twisted the silk with a common cotton spinning wheel, and dyed it with such domestic materials as were at hand. The gentleman who was the bearer of the specimens, is a merchant of that neighborhood, and when asked his opinion of the silk, he said it was as good as any Italian silk he ever sold, and that he wanted no better; that it would sell readily, and that he would purchase all the young lady could make at $8 a pound. It is Miss Grigsby's first attempt, never having even seen a silkworm previous to this summer, nor received any other instruction in any branch of the art than that contained in our brief directions. Her success in this trial has determined her to pursue the business regularly,—finding it, as she says, both pleasant and profitable, and by no means difficult. The quality of the silk is really excellent—its only faults being in the dying and fineness. The pink and red are rather dull, but the green is beautiful; none of the colored skeins, however, have the rich gloss of which silk is susceptible. Four of the skeins are of a good sized thread for common use, but two of them are almost as fine as the fibre of the Spider's "attenuated web." And yet it had been twisted, doubled and twisted again on a common wheel. These, however, she only made thus fine to see how delicate a thread she could make. We have called the silk excellent, by which we mean that it was perfectly evenly reeled, properly twisted, and of good strength, and not inferior in any quality except the colours to any silk we ever saw. These samples of silk may be examined at the office of the Farmer by any one who may take an interest in the matter.

Prices Current in New York, Sept. 24.

Beeswax, yellow 18 a 21. *Cotton*, New Orleans .10 a .12; Upland, .7½ a .10; Alabama, .8 a 11½. *Cotton Bagging*, Hemp, yd. 14½ a 17, Flax 13 a 14½; *Flax*, American, 7 a 8.——-*Flaxseed*, 7 bush. clean .—-- a .——*Flour*, N. York. bbl 5 50 a 5.62; Canal, 5.81 a 6.00; Balt. Hwd.st. 6.12 a 6.25; Rh'd. city mills 6.25 a ——— country, 5.75 a 5.87; Alexand'a, 5.75 a 5.94; Fredericksburg 5.75 a ——; Petersg. 5.75 a 6.00; Rye Flour, 3.87 a 3.94; Indian Meal, per bbl. 3.75 a 3.87; per hhd. 17.00 a 17.25; *Grain*, Wheat, North, 1.12 a ——; Vir. 1.15 a 1 20; Rye, North, 80 a —; Corn, Yel. Nor. — a 75; Barley, 1.00 a 1. 4, Oats, Sth. and North, .44 a 50; Peas, white, dry, 7 bu. 5. Beans, 7 bu. 7.00 a 8.00; *Provisions*, Beef, mess 8.00 a 8.25; prime 4.75 a 5.25; cargo 4.62½ a 5.00; Lard, 9 a .10¾; Pork, mess, bbl. 13.50 a 14.25; prime 10.00 a 11.25.

FRUIT TREES.

The subscriber suggests to those gentlemen who wish to avail of his services in the selection of fruit trees, the propriety of handing in their orders soon. He has taken much pains to prepare himself by a personal examination of the nurseries in this vicinity, and by inspecting the fruit of the original trees, so far as was practicable; and therefore has no hesitation in saying that he will be able to select as fine peaches and pears as can be found in the United States. As he contemplates visiting New York in the month of October, those who wish fruit or any other trees or plants from the extensive nurseries of the Messrs. Prince of Flushing, or Mrs. Parmentier at Brooklyn, can avail of his personal services in selecting them. The forepart of November is the most proper season for setting out fruit trees in this climate His commissions on the selection and purchase of fruit trees, &c. are *ten per cent.*

GIDEON B. SMITH,
Office Amer. Farmer.

TO THE PUBLIC.

Having assured my friends and patrons that should I ever find it necessary to lower the prices of my PLOUGHS, that I would give public notice thereof, that every gentleman may know the price he will be charged before he sends his orders—I therefore submit the following reduced prices to the public, which will be my charge from the date hereof.

Balt. Sept. 17, 1831. J. S. EASTMAN.

No. 6	a small Seed Plough, - -	$4 50
7	also a seed do. - . -	5 00
7	improved and a heavier Plough, -	5 50
7	Bar Share for stony land, - -	6 00
8	one or a small two horse Plough, -	5 50
8	large size improved small 2 horse do. -	6 00
8	Bar Share for rough soil, - -	6 50
9	small 2 horse Plough, called the poney do.	7 00
9	large size heavier Plough improved, -	7 50
9	Bar Share Plough for rough soil, -	8 50
	Sword Coulter for the same $1 50.	
10	a large 2 horse or small 3 horse plough,	9 00
10	Bar Share for rough soil, - -	11 00
	Sword Coulter for the same $1.75.	
12	a large three horse Plough, - -	14 00
	Sword Coulter for the same $2.00.	

For sale improved Barshare Plough, and the Scotch Plough improved by Geo. Glezy, together with his usual assortment of AGRICULTURAL IMPLEMENTS and Grass Seeds. He has also received by ship London Packet, a fresh assortment of GARDEN SEEDS, which are believed to be of superior quality. J. S. E.

FOR SALE,

A JACK of fine size, five years old, imported from Malta. He is recommended with confidence as one of the quickest and best covering Jacks in America. To save trouble the price is $300 or $150 for the season, payable in advance—or he will be exchanged for a thorough bred untried mare not less than 15½ hands high, or for a *first rate* saddle horse, or one for harness that will do his mile in not exceeding three minutes.

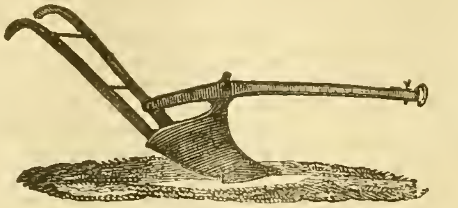
Enquire of J. S. SKINNER,
Baltimore.

The Kentucky Reporter, and Frankfort Commentator, will copy the above to the amount of $1 each, and send bill to J. S. S.

CHARLIESHOPE AT AUCTION.

For sale—at public sale, in New York, by Bleecker & Sons, on Saturday the 1st of October, the beautiful farm called Charlieshope, a notice of which appeared in this paper on the 29th of July. This farm is on the banks of the Raritan, and has upwards of six thousand bearing fruit trees, all of the finest kinds, and an extensive collection of grapes, strawberries, other small fruits, as well as hardy and exotic plants, and shrubs. The dwelling house is large and of modern date, and all the out buildings are in excellent order Five thousand dollars of the purchase money can remain on mortgage. There is a water carriage from the farm—partly by a canal which is now building, to New York.

Sept. 23.



SINCLAIR & MOORE,

Pratt Street Wharf, Baltimore,

Offer for sale a stock of their Improved PLOUGHS, of sizes from heavy three horse to the six inch seeding Plough. Price of the latter $4.50, a superior article.

ALSO

Self-Sharpening Ploughs, of sizes
McCormick's Patent do. do.
Wood's Patent or Freeborn do.
Barshear do.

Hill side, Double Mould Board and Double Shovel Ploughs, Harrows, Cultivators, Hay and Manure Forks, Shovels, Spades, Cast Steel Axes, Trace Chains, Hay Knives, &c. &c.

CYLINDRICAL STRAW CUTTERS, this excellent article has heretofore been sold at from $75 to $45, we can now furnish our smallest size, being on a reduced scale at $27—this size will cut within about 25 per cent. as fast as the size at $45. Also on sale the Circular Knife, Self Feeding Box, Common Treadle, and other low priced Straw Cutters.

THRESHING MACHINES, we are prepared to offer such kinds as are durable and thresh fast, adapted to the power of three horses, of the improved Tooth Machine, we have as yet made only three, one of which sent to a distance and not yet heard from, the other two spoken of by the purchasers as follows.

Extract. "The threshing machine fully equals my expectation. I believe that in dry wheat of short straw two hundred bushels per day may be threshed with ease. (Signed) PEREGRINE WETHERED."

The above was written after threshing 1400 bushels of wheat from very long straw.

"Messrs. Sinclair & Moore,

Gentlemen,—I take pleasure in stating that your threshing machine put up by Mr. Johnson, threshes entirely to my satisfaction, with requisite attendance and proper attention I believe it will thresh twenty bushels the hour, I think the machine recommends itself by its simplicity and the facility with which it may be repaired. Yours, &c. LENOX BIRCKHEAD.

Sept. 9, 1831.

This machine is furnished at $75. Horse power to propel it $75.

Also for sale a constant supply of Improved WHEAT FANS, CORN SHELLERS, Garden and Field Seeds, Fruit Trees, &c.

Sept. 16.

WOOL WAREHOUSE.

LYMAN REED,

Commission Merchant, No. 195 *Baltimore street,*

Devotes particular attention to the sale of WOOL. Any consignments of the article forwarded to him for sale, can be disposed of immediately for CASH, at the highest market price.

CASH, and a fair price, will be paid for a few thousand pounds of *good wool*, (if offered immediately,) to supply orders now on hand.

Refer to Messrs. Cubb, Wyman & Co. Baltimore.

BALTIMORE PRICES CURRENT.

Baltimore Market.--There is a slight advance in Howard-street flour, owing to the continued scarcity. There are of course few large sales, but the price ranges within our quotations. The wagon price of Howard street is 5.62½. In grain and other staples there is no material change.

Tobacco.--Seconds, as in quality, 3.00 a 5.00; do. ground leaf, 5.00 a 9.00.—-Crop, common, 3 00 a 5.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 10 00; yellow and red, 8.00 a 14.00; yellow, 14.00 a 16.00.—Fine yellow, 16.00 a 20.00.—Virginia, 4.00 a 5.00.—Rappahannock, 3.00 a 4.00——Kentucky, 3 50 a 8.00. The inspections of the week comprise 664 hhds. Md.; 105 hhds Ohio; and 38 hhds. Kentucky—total 807 hhds.

Flour—best white wheat family, $6 25 *a* 6.75; super Howard-st. fresh $5.75 *a* 5.87½; city mills, fresh 5.25. 5.50; Susq.— *a* —; Corn Meal, bbl 3 50; Grain, Md. red wheat, 90 *a* 1.08; white do 1.10 *a* 1.20, Susq — *a* —Corn, white, 52 *a* 53--yellow 53 *a* 54—-Rye, 65 *a* 68. Oats, .33 *a* 35. Beans, 75 *a* 80--Peas, 65 *a* 70--Cloverseed 5.25 *a* 5.75-Timothy 2.00 *a* 2.50--Orchard Grass 1.37½ *a* 1.75-Tall Meadow Oat Grass 2.00 *a* 2.75-Herd's, 50 *a* 75---Lucerne 30 *a* 37½ lb.—Barley —-Flaxseed —-- *a* ——-Cotton, Va. 9 *a* 9½——Louisiana 10 *a* 12 —Alab. 9½ *a*. 11—-Tenn.. 9 *a*. ——N. Car. 8½ *a* .9½——Upland 8 *a* 10-Whiskey, hhds. 1st p. 32½ *a* 3.—; in bbls 34 *a* 35——Wool, *Washed*, Prime or Saxony Fleece 58 *a* 67; American Full Blood, 50 *a* 58; three quarters do. 44 *a* 50; half do. 38 *a* 44; quarter and common do. 35 *a* 38. *Unwashed*, Prime or Saxony Fleece, 36 *a* 40; American Full Blood, 33 *a* 35; three quarters do. 30 *a* 33; half do. 28 *a* 30; quarter and common, 25 *a* 28——Hemp Russia ton, $255 *a* —; Country, dew-rotted. 5½ *a* 7c. lb. water-rotted, 7 *a* 9c.—Feathers, 35 *a* —; Plaster Paris per ton, 4.25 *a* —, ground, 1.37½ *a* — bbl. Iron, gray pig for foundries per ton 33.00 *a* ——; high pig for forges, per ton, 28.00 *a* 30.00; bar Sus. per ton, 72.50 a 80.00 —Prime Beef on the hoof, 4.75 *a* 5.25—Oak wood, 3.00 *a* 3.25--Hickory, 4.25 *a* 4.50—Pine 2.00 *a* 2.25.

AGRICULTURAL BOOKS.

A general assortment of Agricultural Books kept constantly for sale at this office.

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EDITED BY GIDEON B. SMITH.

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AGRICULTURE.

(From the Library of Useful Knowledge.)

FARM REPORTS.

III. COUNTY OF SUTHERLAND.

Strathnaver, Morvich, and Culmaily Farms.

Communicated by Patrick Sellar.

INTRODUCTION.

The county of Sutherland* is situated in the 58th degree of north latitude, parallel to Gottenburgh in Sweden, and Labrador in America, and not two degrees further south than Cape Farewell in Greenland. Its climate, and its productions, and the style of farming followed to bring these last to maturity, must differ, in many particulars, from what prevails in England.

It consists of a peninsula, nearly of a square form, washed on the west by the Atlantic, on the north by the Great North Sea, and on the east and south-east by the county of Caithness, and by that portion of the German ocean called the Moray Firth. The exhalations which are produced by these great bodies of water moderate the rigours of winter, and the heats of summer; causing at the same time a dampness during every season, more especially in the vernal and autumnal equinoxes, favourable to grass; but not in every year propitious to the sowing or the ripening of corn.

The centre and east portion of this district, excepting a narrow stripe along the south-east coast, scarcely two miles in breadth, rests on mountains of gneiss and micaceous schistus, with here and there a mass of primary limestone, or a bluff hill of old red sandstone placed upon it. The whole is broken into abundance of wild, and, on the west coast, savage scenery; subdivided by many lakes and streams of water, and covered chiefly with peat bog, on which grow the eriophori, carices, junci, ericæ, and other alpine plants, given in his kindness by providence to those countries, where the extreme length of winter and the absence of spring forbid, during a great portion of the year, the vegetation of plants of a more feeding, but less hardy nature.

The tillage farming of the county may, with one exception on the north coast in the Limestone district, be said to be limited to the south-eastern stripe of coast above mentioned; where the gneiss changes into sandstone, and where breccia of various combinations, and coal measures, are tumbled together in great confusion, and covered with debris from the neighbouring mountains. Here there has been formed a soil, consisting of loam of different depths, approaching in some spots to coarse alluvial matter of considerable tenacity, but all of it adapted, when limed, to the growth of heavy crops of turnips.

The mountainous part of the country is placed chiefly under sheep. It exports annually *one hundred and eighty thousand fleeces* to employ, and *forty thousand sheep* to feed, the English manufacturer. The shores abound in fish, and its fisheries afford more than *fifty thousand barrels of herrings* to the same end; that is to say, either for direct consumption in England, or for Ireland, where they set free an equal value of food better adapted for the English market. The part of the country employed in tillage, exports to the south country several cargoes of corn, some choice Highland whiskey, and a good many droves of cattle; but it is chiefly available for the esculent food, and the refuge during winter which it affords to the weaker portion of the flocks that occupy the great extent of pastoral country, with which it is by the wise provision of nature connected.

Of the above mentioned agricultural produce of the county of Sutherland, the writer of this report may annually export about one-twentieth part of each of the above mentioned species of produce, varying in amount according to the nature of the season, and the skill and industry of the persons employed in directing, superintending, and carrying through the operations necessary to improve the quality and preserve the health of the stock, in raising the necessary food, and in defending it against the effects of climate.

He will proceed to describe—1st. his farms, which belong in property to the Marquis and Marchioness of Stafford, and he will explain,

2dly. The management employed in each department to bring out and realize the produce.

Description of Farm.—The first and most important part of the farm possessed by the reporter is in Strathnaver, a tract of mountain land, on the north coast of the county, in latitude 50° 30s, situated betwixt Loch Naver and the sea. The river Naver runs through it from south to north, and it extends, at its greatest breadth, from Loch Laygal on the west, to Badanloch on the east.

The pasturage consists of a great variety of plants, singularly adapted to the maintenance, during every month of the year, of the only domesticated animal possessed of a cover adequate to defend it by day and night from the effects of such a climate,—so light in weight, as not to sink in the peat bog where it finds its food; and with power and instinct to climb the inaccessible crags, with which such a country abounds.

Where the waters, by cutting out ravines, glens, and straths, have formed an alluvial soil, composed of the debris of the mountain rocks mixed with peat, there the finer sorts of plants appear. These plants vary according to the quality of the component parts whereof the soil on which they grow consists. On spots, for instance, where the decomposing felspar abounds, some natural clover, rye-grass, yarrow, or millefoil, mountain daisy, primrose, and other plants of first quality are discovered,—mixed with the holcus mollis, agrostes, airæ, &c. which are natural to the decomposing mica,—with the fescue grass, brome grass, common bent, heather, *et hoc genus omne*, which is content with the nourishment to be derived from the steril bank of quartz gravel. In this respect the pastures of the county of Sutherland possess an advantage over many tracts exhibiting a more flattering outline; and with the ever varying proportions and combinations of matter contained in its gneiss, there is throughout the country an infinite mixture of the plants best suited for the maintenance of "keeping stock" during every season of the year; which grasses, by the irregular bursting out of rocks in a state of partial decomposition, and by the serpentine course of burns and waters, are ultimately interwoven with the alpine plants that grow upon the peat-bog, and form the principal part of the maintenance of the stock.

Of these alpine plants, there exists a considerable number and variety. On the knolls, the heather (erica vulgaris) prevails. It fills with seed, ripening in all seasons of ordinary fertility, like a field of corn,* and forms a principal part of the food of stock, during the wet months of October, November, December and January. In exposed situations, the shepherds burn it, and the sheep eat the young shoots in August and September. In lower positions it is left to come to greater length, so that the sheep may work down to it in time of snow, and in order to afford shelter in lambing time. Adjoining to the heather, the sheep find, on the peat of damper and deeper quality, the ling, (erica tetralix) cotton grass, (criophorum vaginatum) rasp grass, (carex cæspitosa.) The leaves of these plants they consume along with the heather, during the autumn and winter months. In February the heather has lost its seed. It is succeeded by the pry, (carex panica) the stool bent, (juncus squarrosus) and by thick beds of the flowers of the cotton grass, which are found in the latter end of February and beginning of March, pointing with great vigour to the cheerless sun of that wet and uncomfortable season. These plants continue in use, until the second or third week of April; and during all this time, they furnish for *keeping* stock, food of the best quality and in the greatest abundance. From this date to the middle of May, a link is in this country wanting in the chain of alpine eatage. On well drained and moderately stocked ground, the finer qualities, which in this season begin to spring, supply the defect, but under different management, the 'hunger rot' and a train of consequent ills sometimes ensue. In the middle of May, however, the deer hair (scirpus cæspitosus) takes the place of the moss. It shoots through the ground like a thick braird of corn, and with the fine grasses, by this time in full vigour, provides for stock most abundantly, until the month of August; when the ground is lightened by the departure of the annual cast or sale lot of sheep, and the young heather and ling come again into play.

The next part of the concern, comprising Morvich and Culmaily, consists of a tract in Strath Fleet, and on the shores of the south-east coast of Sutherland. On the south and west it rests on the sides of a pretty considerable chain of mountain composed of inclined red sandstone, called Bhen Bhragie and Bhen Lundie. That part of this farm which falls down on the south side of the mountain, to a flat of more than four hundred and fifty imperial acres of tillage land, is Culmaily farm; and is chiefly composed of a sharp gravelly black loam. incumbent on sandstone of very compact quality, and on the debris of the sandstone and gneiss rocks, which abound in the neighbourhood, mixed up with some sea sand and calcareous matter infused into the mass, at some remote period when it must have been covered with salt water. The other part, which is on the west side of the mountain, is barely within the gneiss district; it descends to the base of a precipitous mass of rock, composed, in a great measure, of amorphous felspar, at the bottom of which is the alluvial flat of 'Morvich,' formed of a deep and pretty strong clay loam, in some part covered with moss, and measuring better than two hundred imperial acres of tillage land.

It is not immaterial to the reader to know, that of these tillage farms, full two hundred and fifty acres have been converted from moor, moss and pasture, into tillage land by the reporter, and that he has thoroughly manured the whole six hundred and fifty acres with lime imported from England; and he mentions these facts here, in order to afford him this opportunity of adding, that he was induced to make such extensive improvements by the liberal terms granted in his first lease, the unsolicited addition of nine years to its endurance, and the abatements of rent given, and other acts of kindness which have been, by the venerable marquis and his noble lady, conferred upon him, in common with the other tenantry of the estate.

He will not tire the reader with a detail of the numerous little experiments which have led him, step by step, to his present system of management—a system containing many imperfections to be discovered, possibly, and corrected, and in no way so likely as by the comparison of the details of his management, with those of other and better informed farmers, who may be induced, like him, to communicate their stock of ideas to this society, for the purpose of being added to the general fund collected by them, for the use of the profession.

MANAGEMENT.

The first outline of his management is this: he breeds and rears his flocks in Strathnaver, devoting Morvich and its adjoining pasturage grounds as a refuge for the weak end of his ewe stock, and for the purpose of preparing his sale ewes for market; Culmaily being used as the refuge for the weak end of his wether stock, and for preparing his sale lot of wethers for market. At Morvich, too, he keeps under his own eye the *élite* of his ewe stock, from which his tups are bred, and at Culmaily his tups, which are marched off to the ewe flocks in Strathnaver at the appointed time.

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* Northern extremity of Scotland.

* In 1816 it filled very imperfectly, and the consequences to the flocks were deeply felt during the ensuing winter.

In going more into detail, he shall divide what he has to say into two parts—the first concerns his tillage, the second the management of his flocks.

1. *Tillage.*—His tillage land is subdivided into twenty-one inclosures, the fences of which are dykes or stone walls, all built by the tenant,* viz.—sixteen at Culmaily, and five at Morvich. The sixteen at Culmaily are wrought in three shifts, viz. six fields of the lightest quality in the course are under the rotation of—first, turnips; second, barley; three, four, five, grass; six, oats: ten fields, or two fives, are thus cropped—first, turnips; second, barley; three, four, grass; five, wheat. The five inclosures at Morvich in this course—first, rape or cole and naked fallow; second, wheat; three, four, grass; five, oats. He grows no more potatoes than are necessary for the subsistence of the people employed, and these are grown among his green crops in alternate stripes of six drills of each kind.

On each of the two above mentioned divisions of the tillage farm there is a suitable onstead of farm buildings, and a powerful threshing mill impelled by water. On Culmaily are meal and barley mills of small size, also impelled by water, for the manufacture of his corn.

His whole tillage, as well as the transport of his wool and materials necessary for the stock land, is performed by six pairs of horses,† a grieve or bailiff, six ploughmen, and a spadesman; a second grieve or bailiff to superintend the women employed on the farm, a millwright, and sixteen women for the two threshing mills. In summer these sixteen women, with fourteen to twenty boys and girls, according to circumstances, in addition, clean the green crops; and in harvest ten to eleven bandwin, or from sixty to sixty-six reapers, with ten to eleven binders, under the superintendence of the second bailiff, cut down, bind and stock the crop. The grieve has at command a hardy Highland pony; and the farmer who resides at Morvich, two riding horses, to one of which can be yoked a light gig, for his conveyance to distant parts of the farm.

He will proceed to describe, as briefly as possible, first, the habits of his people and the practices used in his tillage farm; and secondly, the particular detail of his tillage applied to each species of crop grown.

The grieve or bailiff and four of the ploughmen are married men. Each of these families possesses, during the year, a house and garden, a milch cow, at all times well fed, thirteen Scotch bolls or 16¼ cwt. of oatmeal, three Scotch bolls or about three cart loads of potatoes, a limited quantity of English coals, of the best quality, and a money wage. That of the grieve varies with circumstances. The money wages of the ploughmen may average about ten pounds each. For the above allowance each family keeps a young man within the house, and, if any circumstance put two young men to lodge with one of the families, there is allowed 6½ bolls of oatmeal, one boll of potatoes, fifty-two shillings per annum, and some coals, for the additional lodger. When the force comes to Morvich the men are fed in family with the shepherds there, and 17½ pounds of meal per week are deducted from each man during the time he is so maintained.

Various plans have been tried on the farm; but for several years the above described method has been adhered to as that which, on the whole, has wrought best. The young men were found to be made more steady by the society of the married family, and the married servant went with a better spirit through the unremitting labour attendant on his lot, when he saw his family admitted to as much comfort as could, in these bad times, be afforded; and the prospect before him of assistance from each of his children, as soon as they could gather a weed or hoe a turnip.

There are eight additional families on the skirts of the tillage farm; each of whom at a nominal rent possesses a house and garden, a cow's grass, and a patch of ground, and who, when required, work on day's wages: the younger children at fourpence, girls at sixpence, old men and lads at one shilling, and able men at one shilling and sixpence per day of ten hours. Their cows are not well fed; they give no milk in winter; but each family has a trifle of bear or bigg* in a small stack behind his house, from each two pecks (three pecks imperial) of which his wife could brew sixty quarts of small beer for her family, were she not prevented by the fifty penalties of the cruel and impolitic malt laws.

In the latitude of Sutherland there is a great diversity in the length of the day and night, at different seasons of the year. From the middle of November to the 1st of February there is no light to perform field work before eight o'clock in the morning, or after four o'clock at night. The practice at this season is, for the families to start at a little past six, and light their lamps. By the light of these, while the women prepare breakfast, the men clean their horses, water them, put the harness on them, one feed of corn† for each horse into the manger, and another into the mouth bags. At dawn they draw out, and begin a yoking or journey, which, with an interval of twenty minutes to empty the mouth bags, lasts until dark. They then return, water their horses and wash their feet, unharness and dress them, fill the rack with oat straw, and the manger with well-washed yellow turnips, on which the horses amuse themselves until eight o'clock. The men in the mean time dine, and at eight a bell is rung, the lamps lighted, the horses thoroughly dressed, the racks again replenished with fodder, and the manger cleaned out and filled with a mash, made by one of the ploughmen during the evening of the preceding day, consisting of one feed of light corn for each horse, boiled up or rather stewed with yellow turnips cut down, bran from the meal mill, and chaff. This closes the duty of the day; the men sup, go to bed, and sleep soundly until six o'clock again rouses them to their work.

In February the day lengthens out, and the yoking lengthens with it until it extends to two journeys of five hours each; at which time the horses begin to be fed with hay in place of straw. The lengthening day now gives an interval for dinner at mid-day, which increases, by the 20th of May, to three hours; and this interval is permitted to them for dinner and rest. They dine at eleven; and most frequently sleep behind their horses from twelve to nearly two o'clock, when they begin their second yoking of five hours. By nine o'clock they are all in bed.

At this time the green crop seed-time begins, and with it the two journeys increase to eleven, and sometimes twelve hours, the horses getting three feeds each per day. The people, at this time, start, feed, and breakfast at four, yoke at five, rest at eleven, when they dine, and rest till two. At this hour they begin the second journey, which lasts until seven, half past seven, or eight, according to circumstances. These seeds are all got in before the 1st of July. The horses are then put to grass: young horses allowed to amuse themselves for the season, and the remaining five pairs restricted to two feeds of corn and ten hours' work, until the cold nights of autumn bring them back to the comforts of their stable; and the short day of November to the arrangement which was followed in that month of the previous year.

The yearly expense of one man and pair, fed and wrought according to the above method, is 80*l.* For the whole six hundred and fifty acres, and other cartage, six pairs, being at the rate of one hundred and eight and a half imperial, or about eighty-six old Scotch acres per pair. The grieve never leaves these teams: he sees them dressed and fed, and he sees them wrought; and the master's eye follows him in every step. The fields are ploughed in regular divisions, the strength concentrated almost perpetually to one object in one field, and the cartage performed to time, by regular yokings; and the writer does not think, that a much greater extent of work could be performed, at the same expense, with justice to the men and cattle. At the same time, he is aware of imperfections; and if better farmers will give a minute detail of their mode of working, he will gladly borrow from their better judgment.

Piece or task work, except in small detached jobs, has not yet found its way much into tillage work in Sutherland. To greater exertions than time-work it certainly leads, and to greater irregularities than is admissible in a well-regulated system; but it saves the trouble of superintendence.

The duty of the second grieve is to attend the threshings that are performed by the millwright and eight women at each onstead; to watch over the care of one hundred and sixty wintering cattle, under the superintendence of three lads; to hand-weed the fallow-breaks, and to hoe better than one hundred and twenty acres of rape and turnips; and with ten or eleven bandwin or bands of reapers to cut, bind, and stock the crops.

In threshing, the first rope of thatch is loosened, and the sluice drawn at eight o'clock: one of the women, with a boy and a horse, carts in the corn, the miller feeds; the seven girls attend, each her particular part of the machinery; and by four o'clock, the fodder of two ten-quarter stacks is thoroughly separated from the corn, and strewed for the cattle, the corn separated from the chaff, and measured over by the second grieve and miller to the granary-keeper; and this person's receipt for the quantity in the master's pocket. The expense may be as follows:

	£.	s.	d.
Millwright, two-thirds of a day .	0	1	8
Second grieve	0	1	0
Eight women, say 8 hours, 64—say 6¼ days	0	3	3
One lad and cart	0	3	0
Say 5¼*d* per quarter . .	0	8	11

This, for oats, barley, and wheat, may cost sevenpence to eightpence per quarter.

No other general remark occurs, except on the subject of manure. On Culmaily-farm there is a very considerable supply of sea-ware, of very excellent quality; on Morvich, which is more inland, there is great abundance of fern or breckan (filices,) which grows luxuriantly on the soil composed of the debris of the felspar rock, and yields potash. It is the practice to mix the sea-weed with the court-dung, in alternate strata. The dunghills so formed being hard trampled down by the carts and the feet of cattle, the mass is found in the beginning of May to be strongly saturated with an infusion of the muriate of soda. It is turned over and slightly covered with mould, for fermentation, preparatory to its being applied to the soil, and it forms a manure of the very first quality. The ferns are cut green, brought together into a great stack, where they ferment to a considerable degree; they are subsequently trampled down under the sheep's feet at sortings, smearing, and at shearing time: and being mixed and further fermented in the mass with court or fold dung, they are therewith applied to the naked fallows about to be sown with wheat.

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* An allowance, or 'meliorations,' to be paid by the landlord to the tenant for certain improvements, at the end of the term, is stipulated for in the lease.

† Seven pairs, including one pair of mares in foal, and one pair of young horses *thrown off to grass during summer.*

* A species of barley.

† One peck and one gallon imperial, make four Scotch lippies or feeds.

The first and most important part of the rotation employed, is the growth of the green crop, that is, cole and turnips; for they are managed in precisely the same manner. This species of crop is most important in two respects: first, as the pharmacopœia for the whole stock on the farm, and secondly as the key-stone of the system of tillage farming employed —and that on which the quantity and quality of each succeeding crop of the rotation depends.

(To be continued.)

(From the New England Farmer.)

CULTURE OF HEMP.

Mr. Fessenden—A very considerable interest having been felt by individuls, in different parts of New England, on the subject of growing Hemp, I am induced to offer you my experience in the business, hoping that if it should not prove useful, it will, at least, be acceptable to your readers.

The distance at which we live from the sea board and from navigable waters, and the want of a ready cash market for the produce of our tillage lands, led me to consider Hemp as a profitable acquisition, especially upon the intervals bordering upon our rivers.

The last week in May, 1829, I suwed, in drill, about three acres of poor grass land, broken up only a few days before and harrowed. The rows were from two to three feet apart, and three to four quarts of seed sown on an acre. We paid very little attention to it, during its growth, hoed a part of it once, to keep down the weeds.

The crop was small, yielding in all about 25 bushels of seed. I think an acre of good land, well prepared and hoed, would have produced as much as the whole of this, in the manner we conducted it. At the same time, I sowed a bushel and four quarts of seed, on half an acre of meadow land, in good tilth, sown broad cast. From this I had a fair crop of stem. The seed sown and planted, this year, I procured from Burlington, Vermont, at 4 dollars a bushel.

On the 25th of May, 1830, I sowed 12 bushels of seed, broad cast, on about four acres and three quarters of land. One acre, was land long used for pasture, on which, however, a crop of rye had been grown the year before, which had never been manured, to my knowledge. The crop was small, some part of it so short that I did not think it worth cutting. The remaining 3¾ acres was good meadow land, though not rich. It had been planted with corn and potatoes the year before and tolerably well manured. It was prepared for the Hemp crop by being ploughed once and harrowed, without manure. It produced what I considered a fair crop, varying in its growth according to the quantity of the land in different parts of the field, from three to seven feet high, when fully grown. The produce of this year, I estimated at five tons of stem, when dry. We cut most of it with a common grain cradle. We pulled the longest part of the stem and when bound and dry, cut off the roots. After drying and securing it from the dews for two or three weeks, we commenced water rotting, by sinking the bundles in a small artificial pond prepared for the purpose, large enough to contain, with convenience, a ton and a half, at a time. In September, the weather being warm, twelve days was sufficient time for rotting. Late in the season, I let it remain in the water from fifteen to eighteen days.

Of this crop I prepared for market in the spring of 1831; 1425 lbs. which I sold to Mr. Edward Adams, cordage maker at Charlestown, at 209 dollars a ton, amounting to $132 94

The expense of this I estimate as follows:

12 bushels of seed at $1 50 per bush.	18 00	
Use of 4¾ acres of land, including taxes $4 00	19 00	
Ploughing and sowing, $1 50 per acre,	7 12	
Harvesting—4 days cradling $1 00	4 00	
12 days other labor in pulling, binding and securing, including board, 4*s*	12 00	
Rotting, spreading, drying, binding and securing, 19 days, including board, 4*s*	12 67	
Expense of breaking and dressing, equal to one third of the crop	44 31	
Freight to market, at 75 cents per 100 lbs.	10 68	
		123 78
		9 16
I have remaining about one ton of stem, which would produce, probably, 3 cwt. of dressed hemp; give one third for breaking and dressing and we have two cwt. of hemp. At the above price	20 90	
Deduct freight	1 68	
		19 22
Leaving		$28 38

The small crop raised in 1829, was prepared and sold, with the above, but the amount kept separately.

From this experiment, I am satisfied that our climate, and the soil of our interval lands, are well adapted to the growth of hemp. The best of our land with good cultivation, is necessary, to insure a profitable crop. It is a waste of time and expense, to put it upon poor land. It is an exhausting crop, as much so as flax, or any of our largest crops. And without some cheap and convenient machinery for breaking and clearing, Hemp cannot be made an advantageous crop, where land can be enriched, or kept in good tilth, only, by expensive labor in manuring and tillage.

Natural meadows or drained swamps would probably produce several successive crops of Hemp without manure. And with the aid of some cheap machinery, (which might be devised) it would answer well, as a cash crop, when grain is plenty and cheap. The greatest difficulty which I experienced in preparing my crop so as to make it equal to Russia Hemp, was, in separating the shive from the fibre. In Russia Hemp, the fibre seems entire, yet free from shives, which in mine, with much exertion in hand-dressing, a considerable portion of shive remained.

I am, sir, respectfully, your obedient servant,

Joseph Sawyer.

Piermont, N. H. Sept. 8, 1831.

To the Editor of the New England Farmer.

Sir—At the request of one of your subscribers, I send you a sketch of the improvements in Agriculture attempted by Fellenberg, at Hofwyl, in the hope that they may be interesting to your readers, and with the earnest wish that *some one* of them, at least, may imitate this noble example, by combining his efforts for the promotion of agriculture, with the improvement of the beings for whose sake alone agriculture is valuable. I have in my possession a number of documents on this subject in the German, which my occupations do not allow me to translate. If any of your correspondents will undertake the task, they are entirely at your service.

Yours, respectfully,

Wm. C. Woodbridge.

Boston, Sept. 13, 1831.

AGRICULTURE OF HOFWYL.

Among the men who have been most distinguished for devising and executing plans of improvement in agriculture, with an immediate reference to the improvements of *man* himself, none has been more remarkable than Fellenberg, of Hofwyl.

He arrived at maturity, in the midst of the French revolution. His attention had early and constantly been devoted to the inquiries and observations concerning the state of society, and the means of improving it; and he had travelled over Switzerland on foot, to make himself familiar with the state and condition of the inhabitants. His investigations of the state of the common people, his intercourse with public men, and the tremendous convulsions he had witnessed, had all conspired to impress upon his mind the same conviction—that the only resource for meliorating the state of his own and other countries, and for preventing a repetition of the horrors of revolution he had witnessed, was to be found in early education; and he resolved henceforth to devote himself to this as the object of his life. He was at one time a member of the council of education of Berne, but was soon convinced that nothing adequate could be accomplished on this subject, through the medium of legislative commissions; and having come into possession of an ample fortune, he resolved to devote this to his great object, and to form on his own estate, and on an independent basis, a model institution, in which it should be proved what education could accomplish for the benefit of humanity. In pursuance of his great design, he soon after purchased the estate called *Hofwyl*, and his life, henceforward, forms an important page in the records of benevolent enterprise. His great object was to elevate all classes of society, by fitting them better for their respective stations, and to render them happy and united, without destroying that order which Providence had appointed, and which the governments of Europe preserved with so much jealousy. He believed it important to collect in one institution the poor and the rich, each with their appropriate means of improvement, and thus to establish proper and friendly relations between them. He considered it of high importance to make agriculture the basis of such an institution. He regarded it as the employment best of all adapted to invigorate the body; but he also believed that, by elevating agriculture from a mere handicraft to an art founded upon scientific principles, and leading directly to the operations of the great First Cause, it would become a pursuit peculiarly fitted to elevate and purify the mind, and serve as the basis of improvement to the laboring classes, and to society at large. He selected Hofwyl on account of its situation; so insulated as to secure it from the influence of bad examples, yet surrounded by villages which would furnish laborers, and only six miles from the city of Berne. It was an estate of about 200 acres, under poor cultivation, lying on a hill filled with springs, and surrounded on three sides by a valley 80 feet in depth. He commenced with employing a large number of laborers in digging drains in every direction, some even to the depth of 30 feet, which completely freed the arable land from water, and at the same time, were formed into a streamlet round the hill, which served to irrigate its borders and the level below, and convert them into rich meadows. His next plan was to turn up the whole soil to the depth of two or three feet, and then replace it, putting the stones and gravel at the bottom, and reserving the richest portions for the surface.

Another object of importance was to convert the swampy groond around into meadows, by covering it about a foot in depth with sand and soil from the upland. This was effected in part by means of the stream we have mentioned, which was made to wash down successive banks of earth placed before it, and in part, during the winter, by sleds descending and raising each other alternately, by means of pulleys, as is sometimes done in coal beds. In connexion with these operations, he erected extensive additions to the granaries (then more than sufficient for the actual produce,) to provide for the abundant crops he anticipated. All this excited ridicule among his friends; and those of his family who were connected with him, left him by his advice, to sustain the burden alone. In order to obtain ample supplies of manure, he commenced the system of stall-feeding, with a large number of cattle, which were constantly supplied with fresh grass, instead of being suffered to feed in the pastures; and erected ample reservoirs for solid and liquid manure of every kind, the care of which occupied a part of every day's labor. A system of four years' cropping, with deep ploughing, and the invention of superior machines for breaking up the soil, weeding and sowing, insured him success; and the lands of Hofwyl have been made to yield *fourfold their former produce,* with an *unintermitted succession of crops.* The labors of the plough require only half the number of animals formally used, and the fields of grain produce nineteen fold the amount of the seed sown. The system of agriculture has been fully tested, by repeated visits of distinguished men of science, and the commissioners of various governments of Switzerland and Germany, and its economical results fully ascertained, as exhibiting, in a striking manner, how much larger an amount of nourishment may be drawn from a given portion of soil than has been generally supposed. Hofwyl has furnished experimental farmers to a number of princes and noblemen, of various parts of Europe; and its pupils have been employed in the formation and direction of some important agricultural institutions. An establishment was also formed for the manufacture of his improved instruments of agriculture, which have been sent to every part of Europe. At successive periods, additions have been made to the domain of Hofwyl, increasing it to about 600 acres, which have furnished all the varieties of soil and situation necessary to render the whole a complete experimental and model farm. But Fellenburg occupied himself in improving agriculture only as a means to the more important end of improving man himself; and during the whole period that he was thus actively engaged in this subject, he was not less engaged in organizing the institutions of education, which form the great object of his life, and the chief glory of Hofwyl.

HORTICULTURE.

De Re Rustica, No. VII.

Columellla on Vineyards.

Vineyards are now rather unpopular because our citizens are too indolent to give their own time to the care of their estates, and leave to bailiffs and slaves to manage a concern of multiplied departments that ought to be prudently conducted through a series of years. Hence the owner is often disappointed of his profits and many also are too impatient to wait for such slow and distant returns even if every thing promises well in the end. But if well managed, no doubt the grape culture is four times more profitable than that of corn. Such is the opinion of the best experience of Italy, and such is the opinion of my uncle M. Columella, a rich and learned man, who has a large wine estate in Spain.

A hundred amphori (717 gallons) per Jugerum (7 Jugerii are equal to 4 3-8 acres) is considered a fair estimate of a good vineyard which is about the produce of mine. If a Jugerum does not yield three cullei (430 gallons) the vines should be extirpated. Marcus Cato, and after him, Terentires Varro, says each Jugerum of land about Faventirem did yield 200 urns (about 2150 gallons) of wine. These things for those times!! For the present time, Seneca's estate at Nomentum produces 8 cullei (1147 gallons) to the Jugerum. An arbour sustaining a single vine has produced 10 amphori of wine. A single vine on Publius Silvius' estate has produced 2000 clusters. A frame will produce less than an arbour. The worst wine will sell for 14 sesterces the amphori (about 8 cents a gallon. Columella does not state the price of the best.)

A vine dresser can tend seven Jugerum. A malefactor, bought at a public sale, may do, but an honest man sold to satisfy a creditor, who may be bought for eight thousand sestertii (320 dollars) is to be preferred. The seven Jugera of land may be bought for seven thousand sesterces (59 dollars per acre.)

The best land for a vineyard is that which was never tended. Old corn land will do very well. The worst is an old vineyard replanted. The better the soil the quicker the return of profit. Champaign lands produce the most wine, but hilly the best. Flint stone land is best because it is not thirsty and retains moistuer. For this and other reasons Virgil recommends to plant with shells.

Try not more than four kinds of vines. The varieties are endless. Virgil says you may with as much ease count the sands of the Lybian desert as enumerate the vines. Choose those of hard wood as most durable. Plants should go to a soil of a similar nature to that in which they are accustomed to grow and found to flourish most, but always to a better soil. If no better, the vines will be stinted, become unhealthy, grow slowly, and make tardy and poor returns.

Vines should be planted in November and February. If planted in quincunx order (like the five spots on dice) the distance is 10 feet: if in rows the distance is 5 and 7 feet.

Sets are better to plant than cuttings. They may be kept in the nursery three or four years. If a cutting is used it should be a malleolus, which is a young vine growing out of the wood of the former year, taking a bit of the old wood on each side, so as to resemble a mallet. The vine must not be bent as it will hinder the circulation of the sap. Plant with three or four eyes below the ground, and one or two above it. Cover them from the sun but not to exclude the air.

The vines must be planted in trenches two feet and a half deep—filled with a rich soil. The trenches must not incline, or their contents will be washed out and wasted by the rains. Virgil recommends to plant with shells, and Mago proposes to manure with grape stones and offal. Each kind of vines must be planted by themselves and the grapes must not be mixed in making wine.

The vines must be pampinated (rubbed with the hands) to clear off the buds and shoots that may be putting out around the roots and along the stem which pampinating produces no wounds and bleedings as pruning will. Hence it is a common saying in Italy, that iron is poison to the vine.

Props must be a foot from the vine so as not to injure the roots, and to allow room to work. The higher the vines are trained the less liable is the fruit to rot. They must be tied with bark or grass bands so as not to cut the vine, or compress it too much.

In autumn ablaquate the vine, (forming a basin around it) but before the frosts sit in draw the earth back again. In Spain, every winter, they draw up a ridge between the rows.

(From Prince's Pomological Manual.)

PEACHES.

Early Newington,—*Pr. Cat. Mil. For. Coxe.*

Smith's Early Newington.
Smith's Newington. Lond. Hort. cat.
Early, or Smith's Newington. Mil.
New York Early Newington. Coxe.

Miller and Forsyth quote the "*Pavie blanc*" of Duhamel, which is the Magdalen clingstone of the present work, as a synonyme of this variety; the justice of which application I have not sufficiently tested to enable me to affirm or contradict. This is one of the best early clingstones. The form is round; the size medium; the colour a fine red next the sun, and white on the other side; the flesh is white, with some red next the stone; firm, rich, very juicy and vinous when at perfect maturity, and like other clingstone varieties, it should be allowed to become fully ripe, for otherwise it is impossible to form a just estimate of the fruits of this class.

The tree is productive, and the fruit matures in August. The "New York Early Newington" of Coxe, is probably synonymous with the kind I have just described. The French *Pavie Newington* has large flowers: I have not yet seen ripe fruit of it.

Old Newington. *Pr. Cat. Mil. Lond. Hort. Cat Lang. For.*

Large Newington. Coxe.

This is a large and exceedingly fine clingstone, of a round form; the skin is whitish on one side, and red on the other; the colour of the flesh is a yellowish white, except at the stone, where it is deep red. In quality it is melting, juicy, exceedingly rich, vinous and high flavoured. The tree is very productive, and is extensively planted for supplying the markets with the fruit, which ripens about the tenth of September; the flowers are of a small size.

Large Early Mignonne. *Pr. Cat.*

Grosse Mignonne hative, } of French publications.
Mignonne hative,

This is a variety of the Grosse Mignonne, with fruit of smaller size, and ripening at an earlier period. It has frequently a mamelon at the extremity of the fruit, and it partakes in its good qualities of the character of its class. The flowers are large, and the leaves are attended with globular glands. Its period of maturity is the beginning of August.

Mignonne Frizee. *Bon. Jard.*

Frizzled Mignonne. Auth.

The principal trait which distinguishes this variety, is found in the formation of its flowers; which are so curled and frizzled, that when the tree is in bloom, it is difficult at a distance to recognize it as a peach tree. The flowers are of the larger class, and the leaves are attended with globular glands. The fruit ripens at the end of August.

Double Flowering. *Pr. Cat.*

Double Blossomed. Lond. Hort. cat.
Rose peach.
Pêcher á fleur semidouble. Duh.
Pêcher á fleurs doubles. Bon Jard.
Nain a fleurs doubles. Bon Jard.

This is a tree of beautiful appearance when in flower, yet it yields but few fruit; the blossoms are large, fifteen to sixteen lines in diameter, composed of fifteen to thirty petals of a lively rose colour, with more or less stamens, according to the multiplicity of the petals, and with from one to four styles. These flowers are produced in such abundance, as to give to the tree the appearance of being clad with roses.

The leaves are dark green, very finely indented, and terminate in a very acute point; the peaches which succeed are, single, double, treble, or quadruple; the two latter soon fall, but a portion of the two former generally attain to maturity. They are of medium size, rather oblong, twenty-one to twenty-two lines in diameter, and rather more in length, they are seldom of the same form, some have a small mamelon at the extremity, others have none, and nearly all of them are of larger size at the head, than next to the peduncle. The skin is velvety, yellowish green, and sometimes of a partial fawn colour next the sun; the flesh is white, and the juice of a rather pleasant taste.

The stone is an inch in length, and eight lines in breadth, terminating by a very acute point; the fruit ripens in September. The tree is only cultivated for ornament, and there are few others which impart as much beauty to the garden at the early period at which its flowers expand themselves, and these continue their bloom for a much longer period than other peaches. The Bon Jardinier mentions a dwarf variety with double flowers, which I have ascertained only exists in imagination: the one I have described can, however, be readily made dwarf by inoculation on suitable stocks.

Montauban. *Pr. Cat. Mil. Lang. Ford. Lond. Hort. Cat.*

This fruit is of rounded form, and medium size, with a suture at one side; it is dark red approaching to purple next the sun, but of a yellowish green on the other side; the flesh is white, with sometimes a tinge of red next to the stone; it is melting, rich, juicy, and of pleasant flavour. The tree is productive, and the fruit, which is a freestone, ripens in the month of August.

Belle Bause. *Pr. Cat. Lond. Hort. Cat.*

Belle Bauce. Bon Jard.

This fruit is in its general character nearly allied to the Grosse Mignonne, and from the high esteem in which that variety is held, this fact is of itself sufficient commendation. Its quality is equally good, its size larger, and it ripens about fifteen days later than that variety, its period of maturity being in September. It is also considered by many as excelling it in beauty.

French Willow Leaved.

Pêcher à feuilles de Saule. Bon Jard.

This tree has linear leaves resembling those of the willow; the fruit is round, of medium size, a whitish colour, and ripens in October. It requires a warm exposure, and only succeeds when in such a situation, or in a southern climate.

Gold and Purple. *Pr. Cat.*

Golden purple.

This clingstone variety has small flowers; the fruit is about the size of the Red Rareripe, which it resembles in shape; its flavour is agreeable, though not equal to the Carolina clingstone; it is of the finest gold colour on one side, and the deepest crimson on the other. There is no tree more productive; and when you consider at one view the beauty of the fruit, and the immense quantities which load the branches, the appearance is truly striking. Its period of ripening here is about the 20th of August.

Vanderveer's Optimum. *Pr. Cat.*

Rapelyea's peach.

This fine clingstone variety is a seedling from the Old Newington, and received its title from respect to Dr. Vanderveer, an intelligent pomologist of this vicinity. It is extensively cultivated by Mr. Rapelyea of this vicinity for supplying the markets. The fruit is of a large size, and Dr. V. remarks that one cheek is generally larger than the other. Its colour is a pale whitish yellow with russet spots, with a red cheek next the sun; the flesh is very delicate, sweet, and juicy. The period of maturity is about a week later than that of its parent, which is so well known as one of our greatest favourites; the leaves are quite large, and the tree is of vigorous growth, and very productive.

(From the New England Farmer.)

HORTICULTURAL FESTIVAL.

The Anniversary of the Massachusetts Horticultural Society, was celebrated on the 21st Sept. In the forenoon a well written, learned and elaborate address was delivered to the members of the society and a collection of ladies and gentlemen, assembled at the Athenæum Lecture Room by Dr. M. A. Ward, of Salem. This address was replete with useful and amusing information. It gave historical sketches of the sciences of Botany and Natural History from the earliest age to the present time, interspersed with interesting anecdotes relative to distinguished men who have successfully cultivated those branches of erudition. It exhibited proof of the advantages which had been derived from the labors of Horticultural Societies both in Europe and the United States, and adverted to the benefits which the public had received, and which might be expected to accrue from the exertions of those and similar institutions; commended the efforts of the Massachusetts Horticultural Society, and specified some of the favorable results of their labors. This Address we hope will soon be published by the Society.

Among the donations of fruits and flowers, which were presented for the Festival were the following, viz:

Dr. Webster; Sweet-water and Isabella Grapes. peaches. Mr. H. A. Breed, of Lynn; Water-melons. Mr. Abel Houghton, of Lynn; Citron Musk-melons and Isabella Grapes Mr. Samuel Pond, Cambridgeport; Sweet-water, red Chasselas and Isabella Grapes. Dr. O. Fiske, Worcester; a large basket of Pears, called Chamberlain, resembling the St. Michael. Mr. Joseph Joy, Boston; brown Beurre Pears. Mr. E. Vose, Dorchester; black Hamburg, white Chasselas, and Gros Maroc Grapes, Capiaumont Pears, and Morris white Peaches. Dr. S. A. Shurtleff, Boston; white Chasselas Grapes, St. Michael, Seckle, and Broca's Bergamot Pears, and 'Shurtleff's' seedling Grapes. Mr D. Haggerston, Charlestown; black Hamburg and Sweet-water Grapes. Mrs. R. Mackey, Weston; superb clingstone Peaches. Mr. C. Cowen, Roxbury; Cape Grapes. Gorham Parsons, Esq. Brighton; Hubbard's Nonsuch, Pomme neige fameuse, and Washington Pearmain Apples; Broca's Bergamot, and Sylvanche verte d'hiver Pears. Mr. S. C. Lyford, Meredith, N. H.; St. Michael Pears. Mr. R. F. Phipps. Charlestown; Andrews Pears Dr. Z. B. Adams, Boston; St. Michael Pears and a fine specimen of Hibiscus Manihot. Madam Parkman, Broca's Bergamot Pears. Mr. Samuel Downer, Dorchester; Black Hamburg, Red Chasselas, Isabella, Schuylkill, Troy, Nazro and Gale Grapes; Capiaumont, Beurre, Knox and Seckle Pears. Mr. Enoch Bartlett, Roxbury; Bartlett and Capiaumont Pears. Ribstone Pippins and Spitzenberg Apples, Isabella Grapes and Watermelons. Mr. Wm. Kenrick, Newton; Isabella Grapes. Mr. J. Wilson, Boston, Peaches. Mr. Daniel Chandler, Lexington; Fruit of Passiflora edulis. M. R. Toohey, Waltham; Heathcott and Seckle Pears. Messrs. Winship of Brighton; black Hamburg, black Cape, black Muscadine, black Cluster, Royal Muscadine, white Chasselas, white, Sweet-water, Saragossa, Wyatt, Isabella and Schuylkill Grapes. Madam Dix, Boston; Dix Pears, a fine specimen. Mr. Charles Senior, Roxbury; one large Lemon tree, one large and two small Orange trees in fruit. Mr. David Fosdick, Charlestown; White Muscadine and Isabella Grapes, Apples, Pears and Peaches Mr. J. Bumstead, Boston; a basket of small blue Ischa Figs. General Dearborn, Roxbury; Heath Peaches, Marie Louise, Beurre d'Angleterre, English Bergamot, and a beautiful cluster containing 36 Seckle pears. John Prince, Esq. Jamaica Plain; Beurre du Roi, Fulton, Dr. Hunt's Connecticut and Capiaumont Pears; Hubbardston Nonsuch Apples. Mr. Eben. Breed, Charlestown; Black Hamburg Grapes. Mr. Charles Lawrence, Salem; Black Hamburg Grapes, 4 clusters weighing 24, 18, 18, 17 ounces; White Muscat Reisling or Clairette de Limoux, Petit Rauschling and Gray Burgundy Grapes; St. Michael Pears. and Kennedy's Carolina Clingstone Peaches, Zebedee Cook, Jr. Esq. Dorchester; black Hamburg, white Muscat, Barcelona, Constantia, Catawba and Isabella Grapes, Seckle Pears, Watermelons, one weighing 38 lbs. and four varieties of musk-melons. Mr. Thomas Whitmarch, Brookline; large Carolina Watermelons. S. G Perkins, Esq. Brookline; white Muscat, Muscat of Alexandria, and black Cape Grapes; Belle de Vitry (superb) Royal George, and Morris' Lucien's white rareripe Peaches; a potted branch of white Chasselas Grapes containing, wood of the years 1831, and wood which in ordinary culture, would have appeared in 1832, 33, 34, with the fruit of the last three years thereon, that of the present year having been gathered. Hon. Richard Sullivan, Brookline; black Hamburg, Sweet-water and an unknown kind of Grapes. Alderman Hall, of New York, a basket of large and handsome Pears, name unknown.

The following letter from the Hon. O. Fiske, was sent with his donation of Chamberlain Pears mentioned above.

Worcester, Sept. 16, 1831.

My Dear Sir,—I exceedingly regret that an engagement with the governor as a Committee to examine White Mulberry Nurseries for a premium, in various parts of the country (postponed on account of the weather) must deprive me of the pleasure of meeting my Horticultural friends at our Annual Festival. I however, avail myself of the occasion to forward for their inspection a basket of native Pears. Although the produce of a farm within two miles of me, I was in ignorance of their existence until yesterday, when I requested the owner to preserve the gleanings of *thirty bushels* which the tree had borne for my use. I was on the ground to-day and found the tree about 15 inches in diameter near the ground with a moderate decrease for 8 feet, when it struck off into a perpendicular, and two lateral branches giving it a well proportioned and well balanced top. Although it had the appearance of age, there was not a scar on the body or a dead or a diseased limb to be seen. I consider it as the best conditioned tree for its age I had ever noticed. On the most careful inspection it had every appearance of a native.

The account I obtained from the present owner was that the farm formerly belonged to a Deacon Chamberlain, one of whose sons found it in a pasture some distance from the house where his cattle had their range, and transplanted it to its present situation.

I called on Gen. Chamberlain, a grandson of the Deacon, who owns an adjoining farm. He corroborated the above statement, and added that the tree was removed above sixty years ago by his *uncle Jacob*, now living, and from that circumstance the fruit has always been called the '*Jacob's Pear.*' It is generally a free bearer; and has never been known wholly to fail. As a table fruit from the redundancy of its saccharine quality and destitution of flavor it will doubtless be considered as inferior to many of our varieties of native Pears. But for all domestic uses, which in a family are of primary importance, I doubt whether it can be excelled. It comes in use when fruit of this character is not readily obtained. I was told that it retains its form and size when baked, and gives a red and rich pulp. It is moreover longer in eating than most other kinds, as may be judged by the sample.

Should the committee think proper to give it a place in their nomenclature, I would suggest the propriety of calling it the Chamberlain Pear.

Respectfully your friend and servant,

O. Fiske.

Zebedee Cook, Jr. Esq.

The following letter from S. G. Perkins, Esq. was sent together with the fruits, &c. presented by that gentleman.

Brookline, Sept. 21, 1831.

Zebedee Cook, Jr. Esq.

Chairman of the Committee of Arrangements.

Dear Sir,—I herewith send you a branch of the White Chasselas Vine, containing the wood of the years 1831, 1832, 1833, and 1834, with the fruits of the three last years attached to their respective shoots; *that* of the present year having been long since gathered and eaten.

You will perceive therefore that this Vine has borne this season, the fruits of four years; which may be considered by some of your guests an object of curiosity, and I apprehend must be new to most of them. The wood of 1832 has one bunch of grapes only, that of 1833 has two bunches; and that of 1834 has three bunches. The first is ripe—the second nearly so, and the last are as you will see, quite small. There may be uses drawn from this fact which every gardener who is acquainted with the culture of the Grape Vine, will readily see; and as it is in the power of every one to produce the same result, they may ascertain the species of grape they are cultivating one, two, or even three years before the vine in its natural course, would produce its fruit.

Respectfully your obedient servant,

Samuel G. Perkins.

(To be continued.)

Never spend your money before you have it.

RURAL ECONOMY.

SILKWORMS.

My Dear Skinner: *Mahon, June* 23, 1831.

I send you inclosed the original, in Spanish, and a translation, of the mode of breeding silkworms, and regret that time does not admit of my going into a detail as explained to me of the manner of making silk. It is a very simple manner.

When the cocoons are formed, and the butterfly has been killed by exposure to the sun, they are thrown into boiling hot water, a handful of slender twigs of birch or any other convenient and suitable tree, are made into a short broom, the soft end of which is thrust by the hand in an active motion on the cocoons and detaches from them the silk which another person is employed in reeling off on a reel made of a piece of fishing cane about two feet long, with two short transverse pieces near each end. After which it is placed on a distaff and spun off by hand as you spin flax. I send you a specimen of this domestic silk of which large quantities are made in the island.

I leave here to-morrow or next day for Naples in the John Adams, on my way to Constantinople, when I hope to be able to devote some of my time to objects of general utility, unconnected with my public duties.

The pine seeds will be delivered to you by Captain Gordon of the navy, who will have also in charge a present for Mrs. Skinner to ornament a side table or mantlepiece, and which I doubt not she will be pleased with.

With my best wishes for you and her, as well as the boys, believe me, truly yours,

J. S. Skinner, Esq. David Porter.

P. S. I send you a twig of the proper kind of wood to make the brush of to separate the silk from the cocoons, and I much doubt whether any other kind will suit so well, you will perceive that it must have sufficient roughness to catch up the silk from the cocoons. I also send you a few eggs which were produced under my own inspection.

Secrets of the Silkworm, its Utility, Diseases and Remedies.

To rear the silkworm, it will be necessary, in the first place, to select a suitable room. This should be rather high, than low, in a good atmosphere, perfectly dry and well furnished with windows, that the sun may penetrate it, in the morning and evening. These windows should be well closed and be covered with glass or fine stuff of some sort, that they may be well shut up, whenever rainy, windy or cold weather, may require it. It is very necessary to observe the weather, for the silkworm is very delicate under all circumstances. Nets spread before the windows will also be a good precaution to prevent swallows and other birds from devouring the worms. Care should be taken that the walls of the house be clean, and without holes or chinks, through which rats might enter, and destroy or injure the worms.

The room should be furnished with upright pieces of wood or studs, with cross bars, and upon these, are to be laid shelves made of small canes. Before the worms be placed upon these shelves, they should be sprinkled with a little good vinegar, and then rubbed with odoriferous herbs, southern wood, &c. These worms are fond of sweet odours.

As soon as the mulberry trees begin to bud, the leaves will be plucked for the worms if they be hatched. But if the eggs, which have been preserved during the winter, should be hatched before the mulberry trees begin to bud, the worms may be fed on the tender leaves of elm, nettle or lettuce.

In hatching the eggs of the silkworm, they will first be put into tepid white wine, or malvasia. The good eggs will be known by their sinking to the bottom of the vase, and the bad by floating. The former will then be spread out upon a plate or board, covered with a sheet of paper, and exposed to the sun.

The season of hatching the silkworm egg, is the month of April, a little earlier or later, according to the climate. They should be hatched between the new and full moon; for the worms hatched at this period, spin larger, finer, and harder cocoo*ns*, than those hatched during the last quarter of the moon.

The following is the mode of hatching the silkworm egg. After they have been put into white wine, place them before the fire, and as soon as you perceive them to be about to hatch, put them into a small wooden box and lay over them sheets of white paper punctured with holes, larger than those made by pins, and upon the paper, place one or two young mulberry leaves. As soon as the worms are hatched they will fix themselves upon these leaves, and with these, they are to be transferred to the shelves of reed or cane. Tender mulberry leaves will then be given to them, morning and evening. They will spread from leaf to leaf, and their food must be increased daily, until they have completed their fourth sleep. If the leaves should at any time be humid or wet, they must be dried with a warm cloth. The leaves must be gathered from the tree, after the sun has passed over them, that they may be perfectly dry.

The silkworm has four sleeps, when it changes, and sheds its skin. When it has had its fourth sleep and changed its skin, it then devours more food than usual, until the body becomes somewhat bright, and then the thread of the silk is sometimes discovered. Much care is required at this moment;—small brush wood and branches of trees, should be prepared and arranged around the shelves, and they must be perfectly dry. Moisture is very injurious. These branches should not be too close together, nor should very many worms be upon each shelf of cane. The worms may thus spread out upon the branches, and several will be prevented from spinning their cocoons together.

Whilst the worms are seeking to rise to perform their work, they must not be left alone, until they have, all of them secured a place on the branches. They proceed in search of their places with great precipitation; hence some fall to the ground. These should be replaced on the branches. The cocoons are spun in two, three, or four days.

Six or seven days after the cocoons are spun, take them from the branches, and select those from which you may wish to obtain eggs. In fifteen or twenty days, the butterfly comes forth which lays the egg.

The cocoons that are destined for silk, must be laid in the sun, to kill the worm or butterfly within.

Of the cocoons intended for silk, those of a yellow colour are better than the red; and the white ones are of the least value.

Cocoons containing the male worm, may be distinguished by their being longer and somewhat pointed; whilst the female cocoons are rounder and fuller at the end. The male butterfly is known by its being thicker and fatter than the female, and a little darker. They are stronger than the others and lay more seed.

The sooner the silk can be reeled from the cocoons the better it will be. They should otherwise be secured from the dust and be well covered. In reeling the cocoons it is of the utmost importance to find a skilful person; for if they be reeled by one who has not had great practice, the loss that will be sustained is inconceivable. Experience will teach this truth.

The silkworms are subject to several diseases, when the person attending them does not keep them clean until they have changed. They may also be affected by various winds or by a mid-day sun. These causes weaken them; and on this account they should be kept clean. The windows should be kept closed when cold winds blow, and a brazier of charcoal well lighted should be placed in the room. Incense should be thrown upon the fire, and also onions cut into little pieces. The worms love odours and are cured of their diseases by them. They may also be sprinkled with a little rose water; and if they be diseased from having overeat themselves they may be cured by making them fast for two or three days. If some be found discoloured or red, with a certain humor upon the belly, which is injurious, they should be immediately separated from the rest, and the healthful worms should be exposed to the open air, before the rising of the sun, and after remaining a short time, they must be restored to their place. They should be sprinkled with a little strong vinegar, and the shelves should first be rubbed with southern wood or other odoriferous plants. They should feel the air and the sun for the space of an half hour in the morning, taking care that the rays do not strike them. The windows are to be so arranged that the morning air can enter.

It is to be remarked that the shelves should be cleansed every two or three days, the remains of the leaves that have been eat, and the excrement of the worms must be taken away, and then fresh leaves are to be given to them.

(From the New York Farmer.)

Hints and Receipts in Domestic Affairs.

Baked beans are a very simple dish, yet few cook them well. They should be put in cold water, and hung over the fire, the night before they are baked. In the morning, they should be put in a colander, and rinsed two or three times; then again placed in a kettle, with the pork you intend to bake, cover with water, and kept scalding hot for an hour or more. A pound of pork is quite enough for a quart of beans, and this is a large dinner for a common family. The rind of pork should be slashed.

There is more deception in geese than in any other kind of poultry. The above remarks are applied to them; but there are other signs more infallible. In a young goose, the cavity under the wings is very tender; it is a bad sign if you cannot, with very little trouble, push your finger directly into the flesh.—There is another means by which you may decide whether a goose be tender, if it be frozen or not. Pass the head of a pin along the breast, or sides, and if the goose be young, the skin will rip, like fine paper under a knife.

Something may be judged concerning the age of a goose by the thickness of the web between the toes. When young, this is tender and transparent; it grows coarser and harder with time.

Cider cake is very good, to be baked in small loaves. One pound and a half of flour, half a pound of sugar, quarter of a pound of butter, half a pint of cider, one teaspoonful of pearlash; spice to your taste. Bake till it turns easily in the pans, I should think about half an hour.

There are various ways of deciding about the age of poultry. If the bottom of the breast bone, which extends down between the legs, is soft, and gives easily, it is a sign of youth; if stiff, the poultry is old. If young, the legs are lighter, and the feet do not look so hard, stiff, and worn.

TO SALT MEAT.

In the *summer* season, especially, meat is frequently spoiled by the cook forgetting to take out the kernels; one in the udder of a round of beef, in the fat in the middle of the round, those about the thick end of the flank, &c.: if these are not taken out, all the salt in the world will not keep the meat.

In *summer*, the sooner meat is salted after it is killed the better; and care must be taken to defend it from the flies.

In *winter*, it will eat the shorter and tenderer, if kept a few days (according to the temperature of the weather) until its fibre has become short and tender, as these changes do not take place after it has been acted upon by the salt.—*Frugal Housewife.*

THE FARMER.

Baltimore, Friday, Oct. 7, 1831.

American Silk.—The Editor of the American Farmer has the pleasure of acknowledging the receipt of another specimen of silk of American production, which cannot but afford evidence, not only of the perfect adaptation of our climate to the profitable culture of silk, but of the equally important fact of the entire competency of our citizens to the exercise of any branch of the art without foreign aid. The specimen of silk alluded to consists of an elegant figured vest pattern and black handkerchief. It was made at the establishment of Frederick Rapp, at Economy, in Pennsylvania, where the worms were raised, the cocoons reeled, the thread throwsted, the material dyed, and the stuff woven and dressed—the whole, in fact, from the egg to the finished cloth, performed within themselves;—unaided by any foreign instructors whatever. As to the quality of the goods we shall not pretend to speak in any other terms than to say, that it is as good and as elegant as we ever wish to wear, and equal to the majority of silk vests and handkerchiefs worn in our country.—The articles can be examined at any time at the Farmer office. The Editor does not hesitate to acknowledge the pride he will take in exhibiting these articles of domestic industry; more especially as they are intended as marks of respect, conferred upon him for the part he has taken in introducing the culture of silk into the United States, and particularly for being the first to furnish the society at Economy with the means of entering upon, and instruction for prosecuting the business. See a letter from Mr. Rapp published in the 17th No. vol. 12, page 132, of the Farmer.

In reference to the culture of silk in the U. States, we are sorry to observe a disposition to mislead the public mind as to some parts of its history, and to award honor to whom it is not due,—as well as to confer more substantial reward where it is not merited. At a more proper time and place it will become the duty of the Editor of the Farmer to disabuse the public, as well as its immediate agents in the administration of public affairs, on this subject. It is proper, however, at this time to notice specially an editorial article that appeared in the Chronicle of the Times, published in Baltimore, of Saturday, 24th of September, in which the impression is clearly intended to be made, that Mr. Rapp of Economy had visited Mr. Duponceau's filature in Philadelphia for the purpose of obtaining information, that he had been freely admitted, and that he had erected works in imitation of Mr. Duponceau's, the whole of which is entirely erroneous. We showed the article to Mr. Rapp, and he authorised us to make the following statement:—that he never visited the filature of Duponceau and D'Homergue; that while in Philadelphia Mr. Duponceau requested him to go and see it, but he declined; and that no part of his (Mr. Rapp's) works are in imitation of Duponceau's and D'Homergues! His "throwsting mill of 96 spindles," mentioned in the Chronicle of the Times is an enlargement of the little reeling and twisting machine, invented by Mr. Hack, the ingenious machinist formerly of the Savage Factory. This machine was noticed in the Farmer last winter, which induced Mr. Rapp to get the Editor to send him one; he was so well pleased with it that he caused an enlarged one to be immediately constructed, with such slight alterations as occurred to him. This machine performs all the operations necessary or desired in the throwsting of silk, and is the invention of an American who never saw a throwsting mill or any other European silk machine, and knew nothing about the manufacture of silk. This machine was seen by Mr. D'Homergue, at Washington, who pronounced it of no value,—saying it would not answer the purpose. Mr. Rapp therefore does not hesitate to declare that he is in no way indebted to Mr. Duponceau or Mr. D'Homergue for any information in the silk business. Even his reels are of his own construction, and perform better than those of D'Homergue, as D'H. acknowledged to him. D'Homergue asked him how much silk his reelers could each reel in a day, and Mr. R. answered "four hanks," which D'H. acknowledged was more than his could do.

Mr. Rapp further assures us, that there is no difficulty whatever in acquiring or performing any branch of the art of silk making, either raising the worms, reeling the cocoons, throwsting the silk, or any other part of the operations. When asked what he thought of the proposition for the government to give forty thousand dollars for teaching sixty young men to reel silk, he replied that it would be throwing the money away; that any number of young men or other persons might learn all branches of the art at his establishment with no other expense than would be required to pay their board; and that he would be happy to afford them all the facilities for doing so without any charge whatever.

It may be well to state that the vest pattern and handkerchief presented to the Editor, are but a small part of this year's produce of silk at Economy—Mr. Rapp informs us that he has made one hundred pounds of raw silk this summer, all of which has been or will be worked up into various stuffs, at his establishment.

Cowpea and Buckwheat—Green Manure.—Since the publication of the letter of Mr. Read on the use of the cowpea as green manure, we have had much conversation on the subject with many gentlemen, practical farmers, of the south as well as of our own state. This conversation has generally been upon the comparative value of the cowpea and buckwheat for the purpose of improving land. We do not find that the latter has been used in the south, nor the former in the north or middle states to any extent, nor that any one person has used both, and therefore no conclusive argument has been adduced in favor of either to the exclusion of the other. On hearing the merits of the two articles set forth by their respective friends, however, we are strongly inclined to believe that buckwheat is the most valuable article for the purpose. The cowpea affords a very abundant foliage which is rich in vegetable matter, and when ploughed in while in a green state, is undoubtedly highly beneficial to a soil deficient in such material. But so far as we can learn from those who cultivate it, but one crop can be turned in during a season, as a great part of the growing season of the year is required for its sufficient growth and turning in in time for the fall sowing of wheat. Buckwheat, though it may not afford so heavy a foliage, is equally rich in vegetable matter, and equally beneficial to impoverished land; and has the great advantage over the cowpea of very quick growth, so that two always, and with industry, three crops may be turned in in time for the fall sowing of wheat. If this view of the case be correct, and we believe it is, there is no comparison between the two articles as green manure. Still we would not depreciate the value of the cowpea, nor offer a single objection to its use. Its value, as well as that of buckwheat, has been ascertained, and is no longer the subject of experiment. Wherever a deficiency of vegetable matter in the soil is ascertained, the use of the cowpea will certainly supply it; but it is believed that buckwheat will do so in a greater degree in the same time. But this deficiency of vegetable matter must be conclusively established before any benefit can be certainly calculated upon from the use of any green manure, cowpea or buckwheat. Soils may be unproductive from other causes than a deficiency of vegetable matter, and in such cases the addition of green manure would be of no benefit, and might be even detrimental. Any considerable excess of vegetable matter in a soil will render it unproductive in the ratio of that excess, and in this case the application of green or other vegetable manure would evidently be hurtful. For such soils the application of lime, marl and other earthy matters, or paring and burning, which is another method of accomplishing the same end, are the only remedies. It may generally be taken for granted, that land originally good but wornout by hard cropping, and thus rendered unproductive, is deficient in vegetable matter, and will be benefited by green manure. The exceptions to this rule are not numerous nor difficult of detection. They mostly consist of what is called bottom lands with a dark spongy soil, with but comparatively a small portion of sand or other earthy matter. With such land the application of lime, &c. as above is to be resorted to. Hence, those who would improve their lands must not expect certain benefit from the application of any article, unless they shall have clearly ascertained which constituent of a productive soil their land is deficient in, and made choice of that constituent as the remedy, in which case they need harbour no fear of failure. If without this precautionary examination of their soil they resort hap-hazard to any means of manuring that may be recommended,—however valuable in its proper place,—they must not attribute the fault to the material, but to its misapplication, if it result, as it will be very likely to do in utter disappointment and loss. Therefore, let the necessity for an addition of vegetable matter be clearly ascertained to exist, and the utility of green manuring will be established; and the only remaining question to be decided will be whether the cowpea, buckwheat, or other materials, will be the most eligible. On this point we have given our opinion and the reasoning upon which it is predicated as above, and shall be thankful to any of our readers and correspondents for theirs, that from a free exchange of opinions derived from experience the truth may be established.

Peaches.—We have never seen finer peaches than those with which our market has been supplied the present season. It has been quite common to find them from nine to ten inches in circumference. They are of all the good varieties produced in the country. Many of extra size and quality have been met with, and afford evidence of the increased attention bestowed upon this excellent fruit by our citizens. Last week our estimable fellow citizen, Isaac M'Kim, Esq. presented us with a very fine one, apparently a seedling, from the October Heath, which, both in size and flavor, surpassed its parent very much. It measured eleven inches and an eighth in circumference, and weighed ten ounces and three quarters. We should have noticed this peach last week, but were desirous of speaking of its quality as well as size, and did not wish to put it to the necessary test, so long as it could be preserved for exhibition among our little collection of rare and curious fruits and vegetables. Many other gentlemen of our city have shown us very fine peaches this fall, and we are glad to observe among them all, a disposition to extend the means of increasing the production of such fruits, by liberally distributing buds to all who are willing to propagate from their trees.

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The following persons are authorised to act as Agents for the American Farmer in their several places of residence:

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In addition to their immense stock of other Trees, Shrubs, and Plants, they have paid particular attention to the culture of the following, which they will put at reduced rates, in large quantities.

6,000 Grapevines of the finest kinds for wine and table fruit--among which are the choice varieties cultivated in the Rhenish, Champaigne, and Burgundy Vineyards, which will be furnished at $25 per 100, and other kinds of wine grapes at $15 to $20 per 100—and wine grapes of the common French sorts at $12.50 per 100.

6,000 Isabella Gravevines three years old, at $25 per 100—one year old at $20 per 100.

3,000 Scuppernong Grapevines at $25 per 100.

Also the Alexander or Schuylkill Muscadel, York Lisbon, York Claret, Winne, &c. at $25 per 100.

30,000 English White Thorns, and 20,000 Washington Thorns.

1,500 Fine Spanish and English Filberts, of large size.

2,000 Spanish Chestnuts, or Maron, a most excellent fruit.

3,000 Gooseberries, of bearing size, and of the very largest varieties.

3,000 Currants, of the large Dutch varieties.

2,000 White and Red Antwerp Raspberries, the *true kind*, with monstrous fruit.

3,000 Orange Quinces, bearing trees, and the fruit of the largest and finest kind.

50 Varieties of Strawberries of the very largest kinds at low rates by 100 or 1000.

Figs, large bearing trees of above 40 very superior kinds.

Mulberries, several thousand trees of the best kind for eating, and for silk, including the *new Chinese Mulberry or Morus Multicaulis*, at 75 cents each.

Almonds, 2,000 trees of the finest kinds for orchards, this fruit will produce large and profitable crops in Virginia.

20,000 Royal Oak Trees, so noted for beauty of foliage and for timber, at $10 per 100, or $50 per 1000.

4,000 Madeira Nut Trees of a large size, and at reduced prices.

Also the finest varieties of Pomegranates, and Olives, and above 600 varieties of splendid Roses, above 100 Chinese monthly kinds—70 elegant varieties of the Camellia Japonica, or Japan Rose. Where Roses are wanted by 100 or 1000 for plantations to make rosewater, they will be furnished at low rates.

Most of the Plum Trees are on the famous *new stock* which has been found so superior, and several thousand Peaches, Nectarines, and Plums are on the celebrated French Almond stocks—scions of Grapevines, &c. will be supplied in large quantities.

Their Treatise on the VINE, describes 280 kinds of Grapes and their culture. Their Treatise on HORTICULTURE contains descriptions of a great variety of TREES and PLANTS, and directions for cultivating them;—and their POMOLOGICAL MANUAL, just published, contains full descriptions of above 600 varieties of PEARS, PLUMS, PEACHES, CHERRIES, APRICOTS, NECTARINES, ALMONDS, &c. besides other Fruits, so that all persons can make their selections, with a knowledge of their qualities.

All letters will be promptly replied to, and orders sent direct to the proprietors, or to the subscriber will receive the utmost attention.

GIDEON B. SMITH, Agent.

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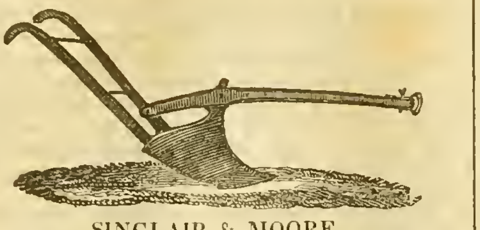
Devotes particular attention to the sale of WOOL Any consignments of the article forwarded to him for sale, can be disposed of immediately for CASH, at the highest market price.

CASH, and a fair price, will be paid for a few thousand pounds of *good wool*, (if offered immediately,) to supply orders now on hand.

Refer to Messrs. Cobb, Wyman & Co. Baltimore.



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Offer for sale a stock of their Improved PLOUGHS, of sizes from heavy three horse to the six inch seeding Plough. Price of the latter $4.50, a superior article.

ALSO

Self-Sharpening Ploughs, of sizes		
McCormick's Patent	do.	do.
Wood's Patent or Freeborn		do.
Barshear		do.

Hill side, Double Mould Board and Double Shovel Ploughs, Harrows, Cultivators, Hay and Manure Forks, Shovels, Spades, Cast Steel Axes, Trace Chains, Hay Knives, &c. &c.

CYLINDRICAL STRAW CUTTERS, this excellent article has heretofore been sold at from $75 to $45, we can now furnish our smallest size, being on a reduced scale at $27—this size will cut within about 25 per cent. as fast as the size at $45. Also on sale the Circular Knife, Self Feeding Box, Common Treadle, and other low priced Straw Cutters.

THRESHING MACHINES, we are prepared to offer such kinds as are durable and thresh fast, adapted to the power of three horses, of the improved Tooth Machine, we have as yet made only three, one of which sent to a distance and not yet heard from, the other two spoken of by the purchasers as follows.

Extract. "The threshing machine fully equals my expectation. I believe that in dry wheat of short straw two hundred bushels per day may be threshed with ease. (Signed) PEREGRINE WETHERED."

The above was written after threshing 1400 bushels of wheat from very long straw.

"Messrs. Sinclair & Moore,

Gentlemen,—I take pleasure in stating that your threshing machine put up by Mr. Johnson, threshes entirely to my satisfaction, with requisite attendance and proper attention I believe it will thresh twenty bushels the hour, I think the machine recommends itself by its simplicity and the facility with which it may be repaired. Yours, &c. LENOX BIRCKHEAD.

Sept. 9, 1831.

This machine is furnished at $75. Horse power to propel it $75.

TO THE PUBLIC.

Having assured my friends and patrons that should I ever find it necessary to lower the prices of my PLOUGHS, that I would give public notice thereof, that every gentleman may know the price he will be charged before he sends his orders—I therefore submit the following reduced prices to the public, which will be my charge from the date hereof.

Balt. Sept. 17, 1831. J. S. EASTMAN.

No. 6	a small Seed Plough, - -	$4 50
7	also a seed do. - . -	5 00
7	improved and a heavier Plough, -	5 50
7	Bar Share for stony land, - -	6 00
8	one or a small two horse Plough, -	5 50
8	large size improved small 2 horse do. -	6 00
8	Bar Share for rough soil, - -	6 50
9	small 2 horse Plough, called the poney do.	7 00
9	large size heavier Plough improved, -	7 50
9	Bar Share Plough for rough soil, -	8 50
	Sword Coulter for the same $1.50.	
10	a large 2 horse or small 3 horse plough,	9 00
10	Bar Share for rough soil, - -	11 00
	Sword Coulter for the same $1.75.	
12	a large three horse Plough, - -	14 00
	Sword Coulter for the same $2.00.	

For sale improved Barshare Plough, and the Scotch Plough improved by Geo. Glezy, together with his usual assortment of AGRICULTURAL IMPLEMENTS and Grass Seeds. He has also received by ship London Packet, a fresh assortment of GARDEN SEEDS, which are believed to be of superior quality. J. S E.

BALTIMORE PRICES CURRENT.

Baltimore Market.--Since our last there is a considerable advance in white wheat family flour. Howard street remains about the same as last week. White wheat also has advanced. For washed wool the prices remain steady with a fair demand, but unwashed has declined considerably, the demand being very limited. Beef on the hoof is rather lower.

Tobacco.--Seconds, as in quality, 3.00 a 5.00; do. ground leaf, 5.00 a 9.00.—-Crop, common, 3.00 a 5.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 10 00; yellow and red, 8.00 a 14.00; yellow, 14 00 a 16.00.—Fine yellow, 16.00 a 20.00.---Virginia, 4.00 a 5.00.—Rappahannock, 3.00 a 4.00——Kentucky, 3.50 a 8.00. The inspections of the week comprise 705 hhds. Md.; 65 hhds Ohio; and 27 hhds. Virginia—total 797 hhds.

Flour—best white wheat family, $6¾ *a* 7.25; super Howard-st. fresh $5.75 *a* 5 87½; city mills, fresh 5.25. 5.50; Susq.— *a* —; Corn Meal, bbl 3 50; Grain, Md. red wheat, 1.00 *a* 1.08; white do. 1.17 *a* 1.25, Susq. — *a* —Corn, white, 52 *a* 55--yellow 53 *a* 54—Rye, 65 *a* 68. Oats, .33 *a* 35. Beans, 75 *a* 80--Peas, 65 *a* 70--Cloverseed 5.00 *a* 5.25-Timothy 2.00 *a* 2.50—Orchard Grass 1.50 *a* 2.00--Tall Meadow Oat Grass 2.00 *a* 2.75-Herd's, 75 *a* 1.00--Lucerne 30 *a* 37½ lb.—Barley.—-Flaxseed 1.25 *a* ——-Cotton. Va. 8 *a* 9½——-Louisiana 9 *a* 12 —Alab. 9¼ *a*. 11—-Tenn. 8½ *a*. 9½; N. Car 8½ *a*. 9½— Upland 8 *a* 10-Whiskey, hhds. 1st p. 33 *a* 3 ½--; in bbls — *a* 35——Wool, *Washed*, Prime or Saxony Fleece 58 *a* 67; American Full Blood, 50 *a* 58; three quarters do. 44 *a* 50; half do. 38 *a* 44; quarter and common do. 35 *a* 38. *Unwashed*, Prime or Saxony Fleece, 33 *a* 37; American Full Blood, 30 *a* 33; three quarters do. 28 *a* 30; half do. 25 *a* 28; quarter and common, 22 *a* 25—— Hemp Russia ton, $255 *a* —; Country dew-rotted. 5½ *a* 7c. lb. water-rotted. 7 *a* 9c.—Feathers, 35 *a* 36; Plaster Paris, per ton, 4.37½ *a* —, ground, 1.37½ *a* — bbl. Iron, gray pig for foundries per ton 33.00 *a* ——; high pig for forges, per ton, 28.00 *a* 30.00; bar Sus. per ton, 72.50 a 80.00.—Prime Beef on the hoof, 4 50 *a* 5.00— Oak wood, 3.00 *a* 3.25--Hickory, 4.25 *a* 4.50—Pine 2.00 *a* 2.25.

AGRICULTURAL BOOKS.

A general assortment of Agricultural Books kept constantly for sale at this office.

CONTENTS OF THIS NUMBER.

Management of Farms in England, (From the Library of Useful Knowledge.) Farm Reports, No. III, County of Sutherland; Strathnaver, Morvick and Culmaily Farms, communicated by Patrick Sellar; Introduction; Description of Farm; Management—On the Culture of Hemp—Sketch of the Agricultural Improvements made by Fellenberg at Hofwyl—De Re Rustica, No. VII; Columella on Vineyards—Peaches; extracts from Prince's Pomological Magazine—Secrets of the Silkworm, its Utility, Diseases, and Remedies—Hints and Receipts on Domestic Affairs—To Salt Meat—Editorial, American Silk; Cowpea and Buckwheat, Green Manure; Peaches—Baltimore Prices Current—Advertisements.

EDITED BY GIDEON B. SMITH.

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TERMS.

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2. Subscriptions are in all cases charged *by the year*, and never for a shorter term.
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4. The risk of mail in the transportation of both the paper, and of bank notes sent in payment for it, is assumed by the publisher.
5. Advertisements connected with any of the subjects of the American Farmer, inserted once, (seldom more) at one dollar per square.
6. All letters concerning this paper must be directed to the publisher. They must be free of postage, except communications intended for publication, and letters containing money.

☞ All Postmasters are requested to act as agents for the Farmer they are authorised to retain $1 for each new subscriber, and 10 per cent. on *all other* collections.

Printed by John D. Toy, corner of St. Paul and Market streets.

AGRICULTURE.

(From the Library of Useful Knowledge.)

FARM REPORTS.

III. COUNTY OF SUTHERLAND.

Strathnaver, Morvich, and Culmaily Farms.

Communicated by Patrick Sellar.

(Continued from page 235.)

Green Crop.—The green crop, of course, succeeds a culmiferous or corn crop. The first operation is a furrow, in the direction of the former ridges, given immediately after harvest and the conclusion of the wheat seed: the ground is cast into breaks fifteen yards broad, and the ploughing so deep as to leave some of the lime visible below the plough sole. When this work has been completed, the field is neatly water furrowed, and left to receive the fertilizing effects of winter.

On fields of light soil, when the crop is intended to be sown on bone-dust, the gates remain shut until after the conclusion of the oat-seed in March. On loams of heavier quality, where dung is to be employed, four dunghills are founded on the head-ridge, two at each end of the field. The foundation is composed of virgin mould or ditch scourings, two feet deep; over this are placed, in alternate strata, four layers of fold dung, and four of sea-weed; and the mass, when completed, is neatly spaded up, covered on the sides and top with mould, and the field shut up to wait further progress at a more advanced period.

When the oat-seed has been completed, the gates are opened, the water-furrows shut by the plough, the field thoroughly harrowed and hand weeded, cross ploughed in wide breaks, and again harrowed to perfection, and every weed gathered into heaps, burned, and the ashes spread. This done, and the dunghills being at the same time turned for fermentation, the gates are again shut, until the completion of the barley-seed, when the tillage is renewed in one of two ways. If a very light field, it is again severely harrowed by cattle travelling at a quick pace, and hand picked, &c.: if a field of better staple, it undergoes a third ploughing across the former one, a rolling, harrowing, and hand picking; and in both cases it is left in a highly-pulverised state to wait until seed time. When the people open the gates to begin sowing, they like to find a young and scarcely perceptible braird of growth of annual weeds thinly scattered on the surface.

At the time of sowing green crops in Sutherland, the dusk or twilight of the evening glides into that of the morning, without passing into night; when the sun has a most powerful influence. The seed process is, therefore, carried through with every possible despatch. The method followed is twofold: in each case it is preceded by a deep furrow-line, to define the head-ridge on each of the four sides of the field.

1. Where dung is to be employed, two ploughs, which are yoked twenty minutes before the carters, open drills, furrowing an acute angle with the side ridges; to favour the admixture of the dung next season in the mass of the field, these furrows are from twenty-seven to thirty inches wide, according to the quality of the soil. Four single carts follow, two at each end of the drills, and deposit dung in these drills at the rate of fifteen to twenty tons per acre. Six girls spread the dung as fast as the carters deposit it. Two ploughs, which yoke forty minutes later than the carters cover in the dung. A few boys and girls hand-pick the whole. The sowing machine follows and rolls in the seed; and at the termination of each yoking, three acres, which at the beginning lay flat and damp from the former tillage, is drilled, dunged, covered, hand-picked, sown, and completed. The machine sows two drills at once. Its rollers are formed to encompass and embrace each drill. The two setts of rollers (one for each drill) are separate, and diverge on an iron axle in such a manner, that they can be made to deposit the seed only on the top of the drill, immediately incumbent on the manure—a condition which insures a more equal and a better crop than where less perfect tillage is employed.

2. When bone-dust is used, fourteen quarters of the manure is wet and covered for fermentation forty-eight hours before the yoking begins. The horses cart this to the field at yoking time, and the loads are set down at measured distances in different parts of the field. Two ploughs open the drills; ten boys and girls manure, carry, and sow the dust into the drill, which is in a state of incipient fermentation. Four ploughs instantly cover in. The sowing machine follows, and from four and a half to five acres are completed at a yoking. The machine is regulated to sow from one to four pounds of seed per acre, according to the farmer's intention. The quantity sown is generally about two pounds to the imperial acre. In all cases the seeds are floated, the lights skimmed off, and the good seeds dried with flour of sulphur, all at the time of sowing. The sulphur is thought to preserve the seed from vermin. The dampness, however, communicated by the floating to the seed, and the fermentation incipient in the manure, does, with greater certainty, at that sunny season, send up a regular vigorous braird, and carry it quickly to the rough leaf, at which stage it is secure from the fly.

Some farmers use bone-dust sowing machines drawn by two horses. The writer of this report, on the whole, prefers manual labour, performed after the fashion above described, to any sowing machine which he has yet seen.

Besides rape or cole he grows four different kinds of turnips. At the part nearest to the mountain (intended to be first used by the sheep) white globe; in the middle, red top and green mixed, four drills and four drills alternately; at the bottom, for spring eatage, yellow, one-fourth part may be white globe, two-fourths, or rather better, red and green, and the remainder, where the field suits, yellow. The white for early eatage in November and December, and for quantity per acre, are unequalled, but their thin skin renders them too tender for the frosts of January and February. The red and green, with great bulk, are proof against the severities of winter. The writer of this report mixes them agreeably to that law of nature which gives *none* of its eatage in one single species; and he thinks the sheep like the variety which is in the two sorts mixed. The yellows, as they retain their sap longest, are decidedly the best for the spring months. The different sorts are made to follow each other in the same drill, by using different seed-boxes, which are exchanged at the different parts marked in the field; the removed one being laid down on the top of the nearest two drills to wait the return of the machine.

The Scotch farmer will pardon this minute detail of his every day work, which is submitted to the English reader in case he should choose to give a fair trial to the *drill* husbandry in the cultivation of turnips.

The writer invariably grows his own turnip seeds. He plants his four different lots of roots far distant from each other, to prevent hybrid admixture, having first selected the roots with great care from the field in which they had been sown. Where, in the course of his little tours, or by correspondence, he can pick up small samples of what is called good seed, he sows them, marks the drill in his weekly report, and pricks from them in the ensuing month of November whatever may seem likely to give a good cross in his seed plots, one load to ten of his own sort, perhaps; less or more as he may judge advisable at the time: it is a measure to be adopted with great caution. Some samples which he obtained from Aikeld and Kelham, in Northumberland, from Samuston, Roxburghshire, from Leming Lane, in Yorkshire, and from Dalswinton, in Dumfriesshire, have done him a deal of good; other samples obtained from gardeners and nurserymen have turned out to be trash in some cases, and in others to be of the very best breeds.

But to return to the tillage: the green crop sowing begins with the rape, as formerly mentioned, about the 25th of May; it concludes before the last week of June. Two horse hoe harrows, followed by twenty or thirty hand hoes, attended by the second grieve, are then set on, first to the rape, and so forward through the turnips, to the latest sown crops. By the time the latest sown is completed, the first sown is ready for the second hoeing. The horse hoers then exchange their harrows for small double mould-board ploughs: with these they set up the crop lightly, and thus, about the middle of August, concludes the tillage. In some cases, however, a second and more effectual setting up takes place in the month of December, of that part of the crop intended for latest use, after the first frosts have made it plain that no further increase of crop is to be expected.

By the above process the ground is left without the vestige of a weed, and the crop does, generally, in every case, completely cover the soil. The Culmaily turnips have, this season, been tried by pulling and weighing measured spaces, as fairly as possible, over different parts of the field, and the following are the results;

	Fold Manure.	Bone Dust.	Average.
White Globe, per imperial acre	T. 20 8 2	T. 35 2 3	T. 27 15 2 1-2
ditto	18 5 1	33 17 0	26 1 0 1-2
Green Top - -	18 1 0	31 10 1	24 15 2 1-4
Field Yellow - -	0 0 0	25 12 3	

This was not a fair experiment betwixt bone manure and fold dung mixed with decomposed sea-weed, since that sown with dust was much the best field of the two. But it shows clearly the proportions which the different sorts of turnips bear to each other, and the causes why, for keeping stock, the writer prefers to have his greatest quantity of the coarser and more common sorts. Of Swedes and mangel-wurzel, he has, for many years, grown none. Whether from the nature of the climate or the soil, he could never bring them to a full crop, and as his sheep hospital, in a great measure, breaks up when the cotton grass comes into flower in March, be found no inducement that he could balance against the sacrifice of quantity.

Barley.—When the turnips have been eaten off by sheep, the surface of the field bears some resemblance to a macadamised road. So far as compression goes, it is certainly not much different from lea, when about to be broken up after pasture. It is usual to cross-rib and harrow it before giving the seed furrow. In strong land, indeed, it sometimes gets a previous clean cross furrow; in soft sandy loams a seed furrow on the turnip break is found quite sufficient. No weeds grow among the corn sown up to grass, and it is never drilled but invariably sown broad cast. The broadest sowing machine is an invaluable article, although extremely apt to be bent in the rods, and otherwise spoiled by the rough and unskilful hands which use it. The quantity of seed given varies from three to five bushels, according to the quality of the soil. The seed time endures from the 1st of April to the 1st of May. Early sowing has not been tried; but by what is said on that subject in the Society's report, No. 1, the writer of this paper intends to make the experiment in February and March first. The returns vary from thirty-nine to fifty bushels of a dark coloured heavy weighing grain, in good favour with distillers.

Grass.—One advantage derived from our late period of sowing is the opportunity afforded of putting in the grass seeds in good time to be covered by the last turn of the harrows, which follow the seed corn; a method affording a better braird and more vigorous plants than when the seeds are rolled in after the barley has got above ground. On soil of the first quality one bushel pacey rye-grass, having a good admixture of rib grass in it, eight pounds white clover, six pounds red, and six pounds trefoil. On soil of the second quality, one bushel and a half ray-grass, eight pounds white, four pounds red, and six pounds trefoil; and on third quality, two pounds of ray-grass, eight pounds white, six pounds trefoil are usually given; to which, in very light moor land, he has very successfully substituted for barley half a peck of rape seed. In this last case an inclosure of very worthless land becomes, both in autumn and spring (April,) a nursery for the weak part of young stock of first quality.

One inclosure, of best quality, is invariably set aside for hay to the working horses. That it may come early to the swaith, it is never permitted to eat it down in autumn. To save the esculence of the hay and the fertility of the field, it is cut the instant the ray-grass comes into flower (excepting what is required for next year's ray-grass seed,) and an exertion is made to get the hay carried before the 8th or 10th of July.

1st. That the aftermath may be, at speaning[*] time, open to recruit the weakest and worst fed lambs; and, 2ndly, that the hay-making may be put past, after the cleaning of the rape, and before the succession of turnips sown, press, for hoeing, on the hay-makers. The young people employed on these works are sure to quit the farmer by the 1st of August, to employ themselves in the herring fishery; and the farmer, whose summer hand-work is not, by that time, completed, has a very poor chance, for that season, to bring his green crops to a successful termination.

Besides this field appropriated for hay, the rotation gives six inclosures at Culmaily, and two at Morvich for pasture. The two at Morvich are devoted as a summer nursery for the ewe stock; one at Culmaily as summer nursery for the wether stock; one for the "work horses, colts, and servants" cows; and the remaing four prepare the sale cattle for market. The fields at Morvich not being eaten bare by the sheep, the scythe is passed over them as soon as the lambs have been speaned, and the ewes sent to the heather: the grass cut, made into hay, and carted off as speedily as possible, that a short close bite may in good time succeed for the further progress of the stock.

The cattle alluded to are all bought in from the people who are settled round the shores of Sutherland, in small lots of land, for the prosecution of the herring fishing. These people have one, two, or three cows each. They sell the calves at from nine months to a year old. The tillage farmers buy them, and prepare them to travel south. The writer of this report uses yearly from seven to eight scores. He buys them in April, puts them, during summer, on his *superabundance* of deer hair, transfers them from that in August to certain coarse rushy loams, where coarse grass grows, brings them to his courtines at Morvich and Culmaily to eat straw in winter, and finishes them off for the road during next summer in the inclosures above mentioned. With some little assistance from the field appropriated to the horses, the four fields summer, on an average, with attention, at the rate of 1½ per acre. It is the practice to fill up two fields with three cattle per acre, and to shift once a fortnight.

The breed is the Norland Kyloe crossed, in some cases, with the Argyleshire breed, of which the noble Marquis has long kept a selected breed at Dunrobin. I am of opinion that had proper skill and attention been used to infuse the Argyleshire blood into the Norland breed of the country during the last thirty years, during which his lordship has possessed the means of doing so from Dunrobin, they would, at this date, have doubled the value of the cattle export of the county of Sutherland. Assuredly the farmers could afford to the people for their yearlings twice the price now paid, were they bred in a different manner; and this remark is peculiarly applicable to the north coast, where a great mixture of worthless Caithness blood prevails.

The sales for the southern market happen in July, August, and September, and they clear the fields in order to prepare them for sowing wheat.

Wheat.—Until bone-dust manure came into use, this mode of cultivation could not be advantageously followed; and it is doubtful whether oats may not, by and by, be found, after lea, the best crop of the two. In the mean time no farmer can refuse the premium offered by the corn-laws, of 60s. for wheat, in preference to 24s. for oats.

The first operation is, to spread the dung saved from the green crop on the leas. On strong lands a cross rib or break furrow is usually given a few weeks before the seed furrow. To prevent the seed from being deposited too deeply in the soil, it is used to give one stroke of the harrows before the sower. The seed being steeped in the field among stale urine, lights are skimmed off, and the good corn is instantly dried with hot lime and sown, and no smut has hitherto followed. On light sharp loam, and on the rape land previously eaten down by the small sheep, it is sown upon one furrow; and in all cases the field is directly and effectually water-furrowed, and shut up for winter.

The produce varies from twenty to forty bushels per acre. The species sown is the thin-chaffed Essex; in some cases the Talavera. The quality produced is coarse, and generally ground down for ship biscuit. A few additional plantations and greater skill may improve the quality in a degree. Still wheat is not naturally fit for the country or the climate.

Oats.—On the lightest soil in Culmaily the author sows Angus oats after one furrow in spring: on the whole leas at Morvich, potato oats after the same degree of cultivation. The Angus oats are generally consumed in horse food, the other in meal, for the use of from thirty to forty families employed on the farm.

The oatstraw is given to the horses in winter, and to the Kyloes at that time when the eatage has got bare, and the turnips cannot be spared from the young stock, which wait, at Culmaily, for the return of the flower of the cotton grass.

Sheep.—But, most assuredly in such a country as nine-tenths of the county of Sutherland is, sheep are at present the only animals fitted for converting the vegetation into realizable value; and without the free use of that part of the country fitted by nature for affording to the flocks refuge from the wintry storms of the gneiss district of mountain lands, *that value cannot be brought out*. On some ill laid out farms, not one half, and others not much above one-third of the lambs bred, come to be sold as grown sheep; and the survivors, when sold, are of inferior quality, and bring a very poor price.

The plan followed by the writer of this report to save these losses, and to make his sheep worthy a better price, he will frankly lay before the reader, after premising, first, his consciousness of many imperfections in it, and, secondly, that what suits his particular position may very possibly be unadapted to any other farm; and most assuredly it is so, according as the nature of the ground, the climate, the extent, or the position of each particular farm, with respect to markets, varies from another.

The sheep reared by the reporter, is the Cheviot, which is one of the many varieties into which the *ovis aries anglica* has, during the lapse of ages, multiplied in consequence of the differences in climate, food, and treatment, to which it has been subjected. The Cheviot hills are, perhaps, the steepest and the highest ground in England to which this species of sheep has been naturalised; and it is quite comprehensible for a store farmer to understand how nature, seconded by the wishes of the shepherd, should have gradually changed the forms of any of the low country varieties, to the light fore-ended, short and close-woolled animal which is found among the border mountains. In fact, one can scarcely tread on the pasture of the Cheviot and survey the plains below, without seeing, that as often as the ancient borderer brought to his mountains the varieties of stock found in the neighbouring vales, the scanty spring food, the elastic air, and other peculiar features of this new country, behoved to fashion the *survivors* of the lambs there bred, and even, if young, the ewes that suckled them, to the small-neck, light fore-end, fine short stunted wool, and other properties of the old Cheviot breed.

The Messrs. Robsons, of Belford, Samuston, and Philogar, in Roxburgshire (from whose stock a great portion of the reporter's sheep have been bred,) informed him that, about the year 1770, that family imported from Lincoln, Gloucester, or Hereford, several sheep, a slight infusion of the blood of which into their flocks was attended by the best effects. Betwixt that time and the year 1790 the discovery of the use of green crops and various other improvements had been made, and must have greatly forwarded the views of the spirited and intelligent border farmers of those days. From the year 1790 to the year 1800 the weight of the Cheviot fleece is quoted at 2½ to 3½ lbs., and the quarter of mutton 12 to 18 lbs. At this day (1830) the weight of the reporter's sheep bred in Sutherland may be—fleece 4 to 4½ lbs.; quarter from 18 to 26 lbs. avoirdupois. Certainly, in strength of withers, fulness and breadth of chest, strength of loins, length, breadth, and cleaving of the rump, depth of twist, and furnishings of the arms and thighs, most likely, too, in constitution and propensity to feed, the Cheviot sheep of this day exceed that which went before them.

The reporter's sale sheep are marked as in the foot-note.[*] They have generally been fed for the Leeds, Manchester, and Liverpool markets (though some of the ewes have been, and are now, feeding much further south;) and it may happen, that some reader of this report may have seen, and will know them, by the marks now given.

When he determined to put his pasture land under Cheviot sheep, he resolved thoroughly to drain the surface of it in the manner then done on the eastern borders, and to put his flocks under the superintendence of border shepherds. They were chiefly young men, who married and brought north their sweethearts with them. He settled them in cottages on suitable parts of the farm; giving to each, where the situation admitted of it, a young man to board with them, in the manner agreed on with his tillage servants. The shepherds' wages, however, much exceed those given to ploughmen. If a shepherd does his duty, he must exercise a deal of consideration, and undergo much hardship; to which the man whose sleep is soundest in the wildest storm, and whose meat is regularly placed before him daily at certain hours, is not subjected. The householder is afforded a cottage and garden, thirteen bolls of meal, grass for three cows and one poney, with the profit to be derived from seventy Cheviot sheep of the different sorts each, mixed among the master's sheep of the same kind. The young men get board and lodging in the householder's family, and the profit derived from sixty sheep. The reporter employing eleven married shepherds and eight young men, this gives the number of twelve hundred and fifty shepherd's sheep or packs mingled among the master's flocks and spread over the farm,[†] and thus, something very like a partnership concern tacitly exists between master and servant; for, although the management rests entirely with the master and his managing shepherd, yet is every shepherd, old and young, deeply interested in the skill, prudence, and vigour employed; and that master will prosper badly who does not hear, and patiently inquire into, all that every shepherd has to say, concerning each and every part of the management; taking due care as he goes on, as much as possible, to identify the interest of each with that of the whole community.

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[*] Weaning.

[*] Each sheep has the letter C branded or burned in the far cheek, and a (S) imprinted with tar on the near rib.

Each wedder has a fore bit and hole cut with an iron out of the far ear.

Each ewe has four bits in the one ear and a fork in the top of the opposite one.

Some of his admirers have been known to *go to market* with the (S,) but they have not yet ventured to assume the other marks.

[†] The packs have marks totally different from the flock, and their faces have no brand or burn mark. The master keeps the shepherds' accounts, and balances them by double entry: if he do his duty, deception cannot take place. So many checks arise out of the system, that he would quickly discover any thing wrong. They are a well-paid, and generally, almost universally, an honest, trustworthy class of people.

Before explaining his particular mode of working the stock of this farm with Morvich and Culmaily, the reporter must mention one or two particulars appertaining to the farm, which had weight with him in deciding on that management. In the first place there turned out to be no one herding on it, where, in the ordinary mode of laying on and tending lambs or hogs, they could be kept, without an enormous loss, by an inflammatory disease of the stomach, called "sickness," or "braxy." They were tried in separate herdings, and they were tried following their mothers throughout the year; but with such bad success, that the loss seldom fell short of fifteen per cent., and varied betwixt that and thirty. Secondly, several of the herdings, which were in a greater degree incumbent on mica slate, with little variety of fine grass on them, were found subject to a disease called pining—a general wasting of the body, and prostration of the strength of the animal, followed, if not cured, by death. And lastly, the skins brought in were found to consist, in a great degree, of those of the youngest and worst-fed lambs, which fell at every age by pining, or drowning, or both, after having gone through the ordeal of the braxy.

Four remedies for these evils were devised, and with some success. First, for the pining, it occured that the immediate removal of the patient from its former "haiff" or herding, to felspar land, and from that, if necessary, to the sandstone land at Culmaily, might be efficacious. It was tried, and with such good effect, that, when taken in time, the felspar land alone answered the purpose. In other cases they were obliged to be sent down to Culmaily. Secondly—the wedder lambs, five hours of rape and turnips, with nineteen hours of heather, per day and night, effectually saved. Thirdly—as it had been discovered that, after several years' depasture of certain herdings by old sheep, lambs might, for one year, be trusted on them, if well herded; therefore, in order to save the ewe lambs, the farm was thrown into the following courses—Nos. 1, 7, 4 of Straithnaver and Morvich were called four-ewe and ewe-hog-herdings, of which three kept ewe flocks, and the forth ewe hogs, after it had been three years bitten by grown sheep, and Nos. 2, 6, 9, were wedder herdings, one of which was under ewe hogs, after having been two years bitten by grown sheep. Lastly, to save the young lambs, the lambing was made as early as the climate permitted. The speaning was performed nearly a fortnight sooner than had been formerly practised, and the youngest and poorest lambs were sent at once to the best and most successful pasture, the more quickly to advance them to maturity.

By a vigilant attention to these measures the losses on the farm were reduced nearly one half, and the stock of every age exhibited a greater degree of health, and the sale lot more equality, than the reporter or his people had in other circumstances seen.

To stimulate the shepherds to individual exertion, the reporter is in the practice of throwing out little premiums for competition among them, and he believes they do exert themselves very fairly. Nevertheless, there remains seven to eight per cent. annual loss on sheep lambed on the farm, and from ten to fifteen per cent. deficiency on what, from the number of ewes put to the tup, ought to be lambed, against which he has not yet prevailed. Younger men will be found hereafter, who possessed of greater science to arrange and skill to execute, will point out the errors of this day, as the present stock farmers smile at the folly of those who went before them, and who were content with the trifle which they realized from the cattle and Highland poneys that waded through the undrained bog and trampled it into mire.

In going more into detail of his management, he will first exhibit the manner in which his flocks now possess his farm, and then, beginning with the lamb when *unhived* at speaning time, he will show how each sort of sheep is with him treated from that time until it go to market.

In this year (1830, 1831) Nos. 1, 7, 8, and 4 are under ewes: Morvich and the north side of No. 2 in ewe hogs; Culmaily in wedder hogs 3, and part of 9 in yill gimmers.* South side of 2 and 6 in dinmants,† and 5 and part of 9 in wedders; Morvich at the same time keeping the small end of the sale ewes and the ewes selected for breeding tups; Culmaily the small end of the sale wethers and the tup hirsel, and reserve being kept as follows:—In Culmaily for any wether sheep diseased; Morvich for ewe sheep diseased; the felspar land of No. 2 for sheep pined on the west side of the Naver, and that of No. 6 for sheep pined on the east side of that river. When the cotton-grass flowers in March, the following shifts will take place:—Morvich ewe hogs give place to the sale ewe lot from 7 and part of 8, which are then brought in to lamb, and, consequently, to spean early, and prepare themselves to travel south. The wether hogs in Culmaily give place to a limited number of the small end of the sale wethers, which make greater progress there than on the mountain land, and thus prepare themselves for their further destination.

(To be continued.)

GREEN CORN STALKS.

South Boston, Sept. 29, 1831.

Mr. Fessenden,—I have been accustomed from my childhood to the use of green corn stalks, as a food for milch cows; and shall probably continue the use of them myself, so long as I keep cows and raise corn; because I am confident I can give them no kind of green food so good, either for their milk, or their flesh, unless it be green corn in the milk. This season, the feed in my pasture had got rather short, and the milk somewhat diminished, before I commenced feeding my cows with stalks. Till the last week, they have been fed with them ever since they were fit to cut, say about six or eight weeks, to the manifest advantage of their milk. It did not diminish till the latter part of the time, when the stalks had nearly perished. In the course of the time, I have repeatedly had occasion to remark how well their milk held out. And yesterday, upon inspection, I was led to remark, that they had also perceptibly gained flesh in the time. They are now in after feed "*up to their eyes,*" with an increase of milk again; but not so great, as when they fed upon the green succulent stalks. I cannot be mistaken in this statement, as the morning's milk has been regularly measured and sold; though I have not been induced to ascertain the exact increase and diminution, upon exchange of feed. Even now the cows will leave their grass, to nibble among the naked remains of the cornfield; so very fond are our neat cattle of every part of this invaluable vegetable, the root only excepted, while the sweet sap remains in it.

For this reason, when we begin to feed cows with stalks, we must feed them to the full. They will then lie quietly down, and *ruminate upon the subject.* And if they get but little water, their milk will not suffer much in quantity or quality. When they once get the taste of stalks, they must be satisfied or they will stand all day impatiently watching the cornfield, if they do not break into it; and setting up a clamorous bellowing, at the sight of every human being. Unless compelled by pressing hunger, they will not divide with us the labor of getting their living. They will neither eat grass nor drink water, so long as they expect any thing they like better. My rule is to give them as many stalks as they will eat up clean. This may be ascertained in a few days by careful observation. They should be fed regularly morning and afternoon. And a cow of common size will eat a good *armful* a day. They will refuse the leaves and the tassel, or blossom, after they have become dead dry. But on the ground where seven cows and much of the time, a yoke of oxen have been fed through the stalk season, I can hardly find a bit of stalk six inches long; although an unusual proportion were barren stalks, of large size, and cut close to the ground. I am more and more confirmed every year, in the belief, that it is far more profitable to feed stalks green, out of the field, than to cure and house them. If well cured I know they make excellent fodder. And in bundles, they are very convenient to bait oxen with away from home. But it requires much labor to secure them in good order. They are very susceptible of injury from bad weather. And unless compelled by hunger, cattle will eat only the leaves, and the slender part of the dry stalk.

I ought to apologise for the unintended length of this article, which I should not have written, but from a deep conviction that the communication of your correspondent from Newton was calculated to mislead in what I consider a very important item of rural economy. In a scarcity of grass feed, green stocks are of great value. They come in the most critical part of the grass season. They are very easily and cheaply raised, by large quantities; in drills for green fodder or dry, after an early drought, and a short crop of hay. And I am confident your correspondent will "never again doubt the utility of the practice," if in future he will feed his milch cows to the full with stalks, and not leave them to depend for much of their subsistence, in the time, upon grass feed, however good. Yours, with much respect,

Lemuel Capen.

HORTICULTURE.

(From the Tuscaloosa Intelligencer.)

The following communication from Mr. Corneille Roudet, one of the earliest of the French emigrants to Marengo county, contains acceptable information, upon the cultivation of the grape, *foreign and domestic.* To the American it will save years of fruitless labor, and no small degree of mortification, to know where to begin, and how to begin in his attempts to make wine. For a long time the French exiles had to struggle against the vicissitudes of a climate to which they were strangers, as well as countless inconveniences in subduing the forests of Alabama. In the course of thirteen years, death and dispersion has thinned the ranks of that little band, who, like the Pilgrims of Plymouth, fled from the persecutions of the old world, to obtain a place of repose in the new. Of all the number that settled near Demopolis, but one has succeeded to a profitable extent in rearing the imported and native vines. Another generation will probably reap the fruits of his labor, which have finally succeeded under so many disadvantages. Mr. Roudet has now attained the object for which he set out; and having patiently persevered to give a new source of wealth to his adopted country, deserves to be ranked among the benefactors of the age. In addition to the grape, it is with satisfaction we state, that he has had entire success in rearing a choice and extensive collection of fruit trees, shrubs, and plants, which we trust will reward his enterprising industry.

THE GRAPE VINE, No. 1.

Introduction of the Vine into Alabama—the Madeira—Description of this Vine—Wine of 1824—*Selection of Plants.*

The introduction of the grape vine into Alabama, by the French emigrants, thirteen years since, was the beginning of a series of experiments, to make wine, many of which proved fruitless. They found on their arrival, several kinds of grapes growing spontaneously through the country, and a few foreign vines had been introduced into the gardens of the settlers. But these were generally of so indifferent a quality, that few or no attempts were made to obtain wine from them.—Gen. Lefebvre' Desnouettes, Col. Lajony, and myself, were the first who planted vineyards. Our vines were imported direct from France, a country which has a soil and climate differing materially from that of Alabama.

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* Ewe hogs once shorn. † Wedder hogs once shorn.

An acute observer should have had some anticipations of a few failures in the first attempts to transplant the vines of Europe into a latitude so foreign to their nature. But we were sanguine of eventual success. For the first two or three years, our vineyards did not fall short of our expectations, after which they declined to almost nothing; and from that period forward, I have observed that French vines in this climate are almost worthless. They afford but a scanty supply of grapes, fit only for the table, and cannot be converted into good wine.

Doctor Viol, an intimate friend of Gen. Lefebvre's, upon his return from Galveston to Marengo county, passed through New Orleans. Whilst there, he happened to be in company with a respectable merchant of that place, who spoke to him of Gen. Lefebvre, and inquired of him the state and condition of the French grant. The merchant observed, that a vessel consigned to himself had just arrived from Madeira, and that her captain had brought him a small bundle of the *real Madeira vines*, which his correspondent there had the goodness to send him; adding, that he thought it would do well in this country. He pressed the doctor to take *four of these vines*, and to present them to Gen. Lefebvre. With considerable care, they were accordingly brought to Demopolis, and delivered in the spring of 1821, at which time I resided with the General.—He placed them in my care, and observed, "*I give you half.*" At the end of the year I went back to my Demopolis place, and took up my vines. The following spring or summer, through inattention, both the General's and one of mine died!! With the remaining one which was very luxuriant, I cut off several slips, and causing them to take root, was enabled to add to my stock that summer; and subsequently continued improving from this vino.

In the fall of 1824, I made a demijohn of Alabama Wine, from the Madeira grape. Col. M'Kee, on a visit to my residence in the spring of that year, saw my prospects, and signified a desire to taste of the wine, should I make any. I accordingly promised to send him a specimen of its quality to Washington city. I put up three bottles of my *Alabama Madeira*, and three of my *Alabama French*, which were forwarded, and reached him in 1825. President Adams, some members of his cabinet, and the Colonel drank the Madeira, and expressed their opinion that it was good *wine* for its age. But the wine made from the French grape had become *sour*.

My tract of land near Demopolis being small, and believing it impossible to accomplish my plans for a vineyard, nurseries, &c. determined me to remove to Greene county, and to take there all my vines, and such fruit trees as would bear transplanting. My land being all in its primitive state and having but 80 or 100 of the Madeira vines, which I planted with no small inconvenience, at an advanced season of the year, it is apparent, then, that my start was not such a one as could have been wished. To increase this small stock, from a hundred to several thousands, required time.—However, in the third year of my new establishment, my vineyard was enlarged to five acres; since which time, I have continued to propagate my vines as circumstances required.

This, then, is the true history of the Madeira vine planted here; and is not at all as a neighbor of mine has been pleased to represent it in the American Farmer some time in the spring of 1829. He stated that the above mentioned vine *was not the Madeira*, but a *wild vine* found somewhere in Louisiana, or some other place. I have been at a loss to know whether the gentleman intended any good to the country, the vine, or to myself, by such inconsiderate observations. My neighbor has a fine vineyard, and well cultivated; but, unfortunately, the greater part of his plantings are not judiciously selected. He gave a very favourable and glowing description of a vine called the *Schuylkill Muscadine*, which, *in his opinion*, had wonderful qualities; but which I do not consider will repay for the trouble of cultivation.

The first great object of a Vigneron should be the correct selection of his plants. Without the utmost attention to it, in a new country, success is altogether uncertain. Many considerations, and principally a series of experiments, will alone lead us to such a selection. For this country, if the nature of a vine be hardy, of quick growth, and insensible to the few warm days in March, of late growth, it is good. These are essential qualities of the Madeira, as well as of the Schuylkill Muscadine; but the fruit of the latter is bitter, coarse, and will but barely make wine. We have several other kinds of grape vines suiting this climate; as the Persian, the Isabella, and the Chaselas. Of these the Persian alone is celebrated for wine.

The Madeira is of so rich a vegetation, grows so luxuriantly, that it can be trimmed long. Each productive eye putting forth four or five branches of grapes: consequently it bears a great deal. Its vintage season is the beginning of September, a time much more favorable than either of the preceding hot months.

Corneille Roudet.

(From the New England Farmer.)

HORTICULTURAL FESTIVAL.

(Concluded from page 237.)

At 4 o'clock, the Society, with their guests, consisting in all of about two hundred, sat down to a dinner, prepared by Mr. Eaton, at Concert Hall. This repast was all that could gratify the most keen, as well as please the most fastidious appetite. It was served with a promptitude and precision, an attention to the wants and wishes of every individual, but rarely witnessed in an entertainment, given to so large a party. The Hon. H. A. S. Dearborn, President of the Society, presided at the table, and was assisted as Toast master by Z. Cook, Jun. Esq., first Vice President of the Society. The entertainment exhibited a feast of intellect and a festival of wit, as well as choice viands for those who were inclined to mingle the repast of the senses with the "flow of soul." The following regular toasts were drank.

Our Country—Where each Exotic finds support—where nothing but the willow weeps.

Massachusetts—In peace she furnishes grapes for her friends--in war, grape shot for her enemies.

The Massachusetts Horticultural Society—By introducing new modes and articles of culture, we hope to add new links to the chain of social being.

Political Horticulture—Which has shown experimentally—that the *Flower de luce* does not succeed well in France—nor the *Orange* in Belgium.

The Poles—Principle as well as Patriotism awakens sympathy in their heroic struggle—since it is the *duty* of every free citizen "*to go to the polls.*"

The Russian Grand Duke and the Portuguese Tyrant—We would not exchange a *St. Michael's pear*, for a *pair* of such Michaels.

Lafayette—an anomaly in Cultivation—A tree vigorous at 74—whose grafts will survive the parent stock, and perpetuate the original flavor of its fruit.

Our Alma Mater—Constant improvements in this original Nursery, until every scion surpass the best of our Seedlings.

The Two Websters—One an X-pounder of the American Language, the other a 76-pounder of the American Constitution.

The Industry of New England—The braiding of palm leaves and the spinning of cotton have shown that what we do not *produce* we render *productive*.

Our Festivals—While we draw from Vineyards in Europe, and from plantations at the Tropics, we have satisfactory proofs of a good Kitchen Garden at home.

Eden—The first abode of the living—Mount Auburn, the last resting place of the dead.—If the tree of life sprung from the soil of the one, Immortality shall rise from the dust of the other.

Cultivation, Commerce and Manufactures—They must be co-existent, and we hope in this country they will be co-eternal.

VOLUNTEER TOASTS.

By J. C. Gray, Esq. Third Vice President.—*Our Country*—a noble tree, with 24 fruitful branches—Let it be preserved from splitting at the crotch, and no earthly power can prostrate it.

By Doct. Ward, of Salem.—*The Flora and Pomona of New England*—The man of science may plant, the man of wealth may water, but the man of practical skill must give the increase. Success to them all.

By Rev. J. Pierpont.—The tables turned since man first attended to Horticulture—then he had his worst *fall* in the Garden—now he has his best Garden in the *Fall*.

By Mr. Assur (a native of Poland.)—*The Poles*—In America they are necessary for the cultivation of *Hops*—In Europe, the Russians are taught by them a quicker step—*flight*.

By Hon. Nathan Appleton.—*Cultivation*—The only process of obtaining fruit, whether applied to *Mind* or *Matter*.

By E. Vose, Esq.—*Belgium*—the land of Van Mons; in return for the scions of its fine fruits, we offer to it scions from our own Tree of Liberty.

By E. Bartlett, Esq. Second Vice President.—*Our Country*—May those who administer the Government remember that the Apple of Discord should never be cultivated.

By Hon. Judge Davis.—Our modern Druids, who turn Forests into Fields, unite the Garden with the Grove, and are such decided Utilitarians as to prefer Maize to Mistletoe.

By Samuel Appleton, Esq.—The Garden of Eden, lost to Mankind by the curiosity of Woman—regained for Woman kind by Horticultural Societies.

By T. G. Fessenden.—*The Hon.* John Lowell, the Patriarch of Improved Husbandry—his influence, precepts and examples have ameliorated the Farms and Gardens, and deserve the grateful acknowledgments of every New England Cultivator.

By a Member.—*The Orator of the Day*—He has presented us this day, to use his own language, a nut of the sweetest kernel, and happily easy to crack.

By Dr. Bigelow.—*Bunker Hill Monument*—We regret to find that it resembles in nothing the worthies whom it commemorates, except in having come to an *obstinate stand*.

By Zebedee Cook, Jun. Esq. First Vice President, (after the President had retired.)—H. A. S. Dearborn, *The President of the Massachusetts Horticultural Society*—The scientific and practical Cultivator—the annals of our Institution attest the value of his labors; the gratitude of his co-laborers is cheerfully and liberally acceded him.

By a Member.—Gorham Parsons, Esq.—a distinguished patron of the sister sciences, Agriculture and Horticulture.

TRANSMITTED.

By William Prince, Senior Proprietor of the Linnæan Botanic Garden.—*The Hon. John Lowell*—the distinguished patron and benefactor of Horticulture.

By William Robert Prince.—*The Horticulturists of Poland*—May the Tree of Liberty which they have so gloriously planted, overshadow and exterminate all germs of despotism.

By Alfred S. Prince.—*Flora and Pomona*—Alike animating the hearts of their votaries in every clime.

(From Prince's Pomological Manual.)

PEACHES.

Diana. *Pr. Cat. Coxe.*

This is a freestone fruit of medium size, and excellent flavour; the flesh melting and juicy. Its colour is whitish, approaching to straw colour at its maturity, which takes place in August. The flowers are of the medium size.

Kennedy's Carolina. *Pr. Cat. Lond. Hort. Cat.*

Large yellow Pine-apple. Coxe.
Kennedy's Carolina Clingstone.
Early Lemon. *Yellow Pine-apple.*

This is unquestionably one of the finest clingstone varieties known, both as regards size and quality. It belongs to the largest class of peaches; is of an oval or oblong shape, pointed at the extremity, and terminating in a mamelon; the skin is deep yellow, except next the sun, where it has a dark crimson cheek; the flesh is of a fine yellow colour, rich, sprightly, and high-flavoured, with a degree of acidity; it closely adheres to the stone, and immediately around it is tinged with deep red. The tree is one of the most productive, yielding large and regular crops, so much so as to be often overloaded, in which case it is preferable to thin out the fruit, and to leave only a reasonable proportion. It ripens about the middle of September. This variety was brought from South Carolina, before the revolution, by a Mr. Kennedy, of New York, who, on account of its excellence, sent a message to the grandfather of the author, knowing him to be very curious in fruits, and requested him to call and obtain scions from it.

Spring Grove. *Pom. Mag. Lond. Hort. Cat.*

The description of this new variety I quote from the Pomological Magazine. It was raised by Mr. Knight, from Neil's Early Purple and the pollen of the Red Nutmeg, the former having crenated leaves, with globose glands and large flowers; and the latter having crenated leaves with reniform glands and large flowers; in these respects this agrees with its female parent. It ripens about the end of August, and differs from the Grosse Mignonne, and Neil's Early Purple, it being much rounder than they are. A very good variety;-its fruit not quite so large as that of some others, but remarkably handsome and well flavoured; flowers pale blush, the centre purplish red; fruit middle-sized, globular, broadest at the base, with a shallow suture; bright crimson on the sunny side, greenish yellow on the other; flesh whitish to the stone, from which it parts freely, very juicy, rich, and high flavoured.

Dwarf Orleans. *Pr. Cat.*

Dwarf Peach. Pot Peach.
Pecher nain. Duh. Lond. Hort. Cat.
Nain d' Orleans.

This tree attains only to two or three feet in height; its flowers are of a delicate rose-colour, and fourteen to fifteen lines in diameter; they are formed in rows around the branches, and so closely set, that when expanded, they cover the limbs, more than forty flowers being sometimes counted upon a small branch of three inches long. The leaves are longer than those of any other variety, pendent, and much indented, especially towards their base, where the teeth are of the greatest depth. The fruit is of medium size, and disproportionate to the size of the tree, being nearly two inches in length, and as much in diameter; it is divided on its side by a rather deep suture, which is terminated at the extremity by a remarkable cavity. The skin is usually of a greenish hue, never coloured, unless at the head, which is slightly tinged with red. The flesh is melting, but the juice is most generally bitter and of a disagreeable flavour; the stone is whitish. This fruit ripens in October; it is only cultivated as a curiosity, being very suitable to plant in pots, and made use of in that manner as an ornament to the desert. The tree is more tender than other varieties, and in northern climates requires to be covered with a box, or to have some other slight protection.

White Blossom. *Pr. Cat.*

Willow peach. *White stone.*
White-blossomed Incomparable. Lond. Hort. Cat.

The bark of this tree, when the leaves have fallen, is of a pale straw colour, which gives to it a very peculiar appearance; the flowers are perfectly white, of large size, and quite showy, so that it is altogether dissimilar to others at the period of its bloom likewise. The fruit is perfectly white, of an oval form, and handsome appearance; the flesh is also white, melting, juicy, and pleasant, and parts freely from the stone. It is much used for preserves when not over ripe, and is at full maturity in September. This variety originated on Long Island, and re-produces from the stone trees similar in the appearance of the wood, but varying in the quality of the fruit and the size of the blossoms. The Snow-peach is a variety with smaller flowers. I have put down as a synonyme the White-blossomed Incomparable of the London Horticultural Society's Catalogue, and it may be the same; as trees were sent to England, more than fifty years ago, from the nursery at Flushing, and possibly they may have possessed the same variety in England anterior to its production here. The original tree of this variety was discovered in a hedge in King's county, from which scions were obtained by the grandfather of the author, who sent a great many of the trees to Europe before the revolution.

Columbia. *Pr. Cat. Coxe.*

The form of this fruit is somewhat flat or compressed, its diameter being greater than its height; it has also a suture running from the stem to the extremity; the skin is thick and rough, of a dingy red hue, spotted over with dark reddish touches; the flesh is of a bright yellow colour, melting, rich, and juicy, the grain or fibre bearing a similarity to that of an over-ripe Pine-apple. It is a freestone variety of great excellence, and ripens about the first of September. Mr. Coxe remarks that this peculiar peach was produced from a stone brought to New Jersey from Georgia, and that he gave it the name by which it is distinguished.

Royal George Clingstone. *Coxe. Pr. Cat.*

This tree produces small flowers; the fruit is very handsome, of a pale yellowish white colour, tinged with red on the sunny side; it is of large size and oblong form, terminating with a mamelon at the extremity; the flesh is juicy, and of excellent flavour. The fruit is at maturity in August.

Yellow Preserving. *Pr. Cat. Coxe.*

This tree has large flowers; the fruit is a small freestone, of a greenish yellow hue; the flesh wholly of a yellowish colour, even around the stone, dry, and with but little flavour. Its period of maturity is in September.

Hill's Madeira. *Pr. Cat. Coxe.*

This is described by Mr. Coxe as a very large peach; but the fruit from which he drew his description was probably produced under circumstances peculiarly favourable, and I am informed by Mr. C. R. Smith that its size varies exceedingly, and in proportion to the advantages of situation. I have not succeeded in having large fruit on my trees; but it may be that their location was not sufficiently favourable. This fruit is white, with a faint tinge of red next the sun; the flesh is tender, melting, juicy, and high flavoured; it ripens in September. Mr. Coxe remarks that the tree was raised by the late Henry Hill, Esq. of Philadelphia, from a stone brought from Madeira, and that the fruit has weighed twelve ounces.

Peche de pau. *Duh. Pr. Cat.*

Pêche de peau, ou d'Italie.

The flowers of this variety are small, the fruit large, round, and terminating by a very projecting and curved mamelon. The flesh is white, slightly approaching a greenish hue, and becomes melting when the fruit is at perfect maturity, with high-flavoured and pleasant juice. Duhamel states that it is very late in ripening, and consequently in the more northern latitudes it does not come to perfection except in seasons when the end of summer and the autumn are dry and very warm. I obtained this variety only the present year, after having made repeated efforts, it being very rarely to be met with even in France. From the description given by Duhamel, it would appear to be best suited to the States south of the Potomac; but it is quite probable it may succeed in this vicinity, as our summers have so much heat.

Lisle. *Pr. Cat. Mil. For.*

La petite Violette hative. Mil. ??

This fruit is of rounded form and medium size; the skin is of a fine violet colour next the sun; the flesh is melting, and full of vinous juice; of a pale yellow colour, except around the stone, where it is very red. It is a clingstone, and ripens early in September. I have not seen this fruit myself, and rely upon Miller and Forsyth for the above description. Miller quotes the "Petite Violette Hative" of Duhamel, which is a Nectarine, as a synonyme of this; Forsyth copies the description given by Miller, but omits the synonyme. I do not find this variety in the London Horticultural Society's Catalogue, which would seem to throw some doubt on the subject.

Rambouillet. *Pr. Cat. Mil. Lang. For. Lond. Hort. Cat.*

Rumbullion. *Cannon's Rambouillet.*

This fruit is of rather large size and oval form, with a deep suture; it is of a fine red next the sun, and yellowish on the shaded side; the flesh is a bright yellow, deep red next the stone, melting, with rich and vinous juice. It ripens in September.

Portugal. *Pr. Cat. Mil. For. Lond. Hort. Cat.*

This is a very large round clingstone, of a beautiful red colour on the sunny side, and often marbled; the flesh is firm, rich, juicy, and vinous, and its colour white, but of a pale red next to the stone, which is of small size. It is at maturity in September.

Yellow Alberge Clingstone. *Pr. Cat.*

Yellow Alberge. For. *Pavie Alberge.* Duh.
Persais d'Angoumois. Duh. syn.
Pavie jaune. Lond. Hort. Cat.
Persécque jaune. *Yellow Persique.*

The leaves of this tree are attended with reniform glands; the flowers are small, being not more than seven or eight lines in breadth; the fruit is of fine size and beautiful form, often measuring two to two and a half inches in its greatest diameter, by one or two lines less in height; it is furrowed on one side by a rather deep suture, one border of which is more projecting than the other; and it is terminated at the head by a very conspicuous mamelon. The skin is velvety, yellow where shaded, and speckled with a considerable number of small reddish points, which become more numerous as they approach the sunny side, where they are so close to each other that they give it entirely a reddish hue; the flesh is firm, rather dry, and almost breaking; its colour is yellow, except around the stone, to which it strongly adheres, and where it is a rather dark red. In the first edition of Duhamel it is mentioned that it becomes very melting but this is not the case in the vicinity of Paris, where, however, it is as yet very seldom to be met with, as the authors of the New Duhamel make mention. The period at which this peach ripens is towards the end of September It is deemed an excellent fruit, and greatly cultivated in Angoumois, whence the author of this work received it about four years since.

LATE YELLOW ALBERGE. *Pr. Cat.*

Alberge jaune tardive, of French catalogues.

This is a late clingstone variety, and one of those which I have recently introduced from the south of France. It does not attain to maturity until the end of September or the beginning of October: its appearance is fair, the form somewhat oval, and its colour a pale yellow. A tree of this variety produced fruit with me the last season for the first time. It is much esteemed in the country where it originated, and will no doubt be equally so here; but the opportunities of testing it have as yet been too limited to allow me to speak decidedly of its qualities from personal investigation.

OLDMIXON FREESTONE. *Pr. Cat.*

Oldmixon clearstone. Coxe.

This tree produces small flowers; the fruit is of large size, and the form flat or compressed. The colour of the skin is white where shaded, with a red cheek on the sunny side; and it is deemed quite a beautiful fruit. The flesh is tender, rich, juicy, and luscious. Its period of ripening is August.

OLDMIXON CLINGSTONE. *Pr. Cat. Coxe.*

Catharine? Auth.

This is said to be an imported variety, brought to this country by Sir John Oldmixon, to which the title here adopted was applied, for the purpose of distinction, in the absence of a knowledge of its true name, a point which I trust I shall he enabled ere long to solve. It is a very fine fruit, and is raised in great quantities for the supply of the markets; it is round, of large size, and has a beautiful red cheek next the sun; the flowers are of small size. It bears carriage well, and ripens the first week in September.

FAVOURITE RED. *Pr. Cat.*

Favourite. Coxe.

This tree has small flowers; the fruit, on the contrary, is of large size, the form oblong, and the flesh tender and rich. The skin is red and white, and the fruit of beautiful appearance. It is a freestone variety, and at maturity early in August.

GREEN NUTMEG. *Pr. Cat.*

Early Anne. Coxe. Lon. Hort. Cat. Anne. Mil. For.

This variety is said to have originated in Berkshire, (England,) and I do not find it described by Duhamel or any other French writer. The foliage of the tree has a particular flourishing appearance. The flowers are pale red; the fruit is of a round form, with a partial suture at one side, and from one and a quarter to one and a half inches in diameter; its colour is yellowish green, with a touch of red next the sun on a part of those most exposed to its rays; the flesh is a yellowish white, melting, juicy, and of very pleasant flavor. The tree is a good bearer, and the fruit ripens during the first days of August. It is much esteemed for preserves, and when not fully ripe the fruit is well adapted for that purpose, and resembles green limes. Murray's Early Anne is a variety raised from the seed of this.

SWEET WATER. *Pr. Cat. Lond. Hort. Cat.*

Early Sweet-water. Lond. Hort. Cat.

This tree has large flowers, the foliage and growth much resemble the preceding one, of which it is a seminal variety, and originated in this village about twenty years since. The size is double that of its parent, measuring from two to two and a quarter inches in diameter, and sometimes still more. Its form is round, and its colour whitish green at maturity, which takes place at the same time as the Green Nutmeg, or four or five days later. The flesh is very tender, melting, rich, and juicy; and when all the properties of this variety are considered, it may be justly deemed the finest of all the Nutmegs, and it is the earliest peach we have whose size is above mediocrity. It is a freestone like all the other Nutmeg varieties.

GREEN PEAS, CUCUMBERS, &c.

MR. SMITH: *Annapolis, Oct.* 7, 1831.

On Thursday the 29th ult. I had a mess of green peas, cucumbers, and corn, and the ensping day cimlins. I have peas now podding and in blossom. A few days since I pulled a vine of what is commonly called the cowpea, but I term it the cornua, and might indeed add copiæ, being an abundant bearer, measuring in length somewhat over ten feet, making it three feet and upwards longer than the remarkable plant mentioned in the American Farmer, a week or two ago; one of the pods measures nine inches. I also the day before yesterday plucked a vine of the cream coloured running bean, measuring in length upwards of fourteen feet. J. F. B.

PEACH TREES.

A letter to the editor of the Genesee Farmer, from a gentleman in Mount Pleasant, Ohio, says—"I am not aware that any thing better has been adopted in regard to the preservation of the peach tree, that the practice which has lately obtained in this place, of taking away a few inches of the earth round the roots of the trees in the fall and spring, and pouring hot soap suds over them. I have generally taken pains to clean the roots of the gum which has oozed out from the wounds made by the worms, and then poured warm brime over them; my trees look as thrifty as any I have seen, but I dont know that the experiment has been sufficiently tested to say it will always succeed; it might be well for those who have failed by other means to try it."

RURAL ECONOMY.

TO MAKE METHEGLIN.

Mix three measures of warm water with one of honey, in quantities sufficient to fill your keg or barrel. If a new egg will not float so as to show the size of a twenty-five cent piece add more honey. Put the liquor into a still or brass kettle and simmer and scum it until it is perfectly clear—then put it into tubs to cool. When cold pour it into your cask, add a little powdered ginger, bung it close and let it stand a year or more before it is used, when it will be a fine brisk liquor, of which a few glasses will make gentlemen talk politics. The cask should be full, and the more it contains the better the metheglin will be, as is also the case with wine, cider, and most home bred liquors. COUSIN TABITHA.

(From the Genesee Farmer.)

KEEPING FRUIT.

Undoubtedly the best method of preserving fruit for winter, is to pack it down in dry sand. Let the fruit for this purpose be picked before it is over ripe and spread them under cover for a week or more to dry, after which, let it be packed and kept in a cool place (the lower the temperature the better, provided it is above freezing point,) until within a few days of the time when it is to be used, when it should be exposed to the air where the temperature is warmer, so as to render it perfectly ripe. When grapes are put down, which are intended to be kept until spring, they should be put in jars which can be covered so as to render them air tight. The best sand for this purpose is clean beach sand, which is rather fine than otherwise, which should be rendered perfectly dry by being spread upon boards under cover or by putting it in a hot oven. If pit sand is used, it should be washed before drying, to free it from the fine earth which may be mixed with it. Commence by putting a layer of sand in the bottom of the jar, then a layer of clusters, from which all the imperfect grapes have been separated, then a layer of sand, and so alternately until the jar is full. It should be gently shaken, that the sand may enter and fill all the spaces between the fruit, then cover air tight, and if all the process has been rightly conducted, they will keep a year. Apples, pears, and quinces, when put down in sand, preserve their flavor better and keep much longer than in any other way with which we are acquainted. And there is one great advantage in it; when one of them rots, if well packed, it does not affect the others. Saw dust and chaff are often used for the above purpose, but unless there is much pains taken to prepare the saw dust, it is apt to communicate a bad flavor to the fruit, and chaff when used is apt to mould, by which the fruit becomes spoiled. We would remind our farmers that apples sold last June in this market, for about two dollars per bushel, and if they would obtain that price next June, they must prepare for it in the fall. As much depends upon preparing an article for market as in raising it.

HORSES.

An alarming mortality has taken place among the horses in Massachusetts. The disease which is thus fatal, is described, as commencing with a continual inclination of the head to the right, and a subsequent propensity to turn round on the heels, until the animal falls and dies: it is termed apoplexy. The heads of some of the deceased animals when opened exhibited water, and others blood on the brain. The former cases are called *Serous*, and the latter *Sanguineous* apoplexy. There is but one remedy which has yet been found effectual in any case, and that is copious bleeding in the first stages of the disorder. Not less than 6 to 8 quarts should be taken from the horse, and this should be done on first perceiving the symptoms, and before any effusion of blood on the brain.

THE FARMER.

BALTIMORE, FRIDAY, OCT. 14, 1831.

MANURING LARGE FARMS.

It is a common remark made by farmers of the south, on the subject of manuring, that it is impossible to manure their extensive fields. Why, say they, I have five hundred acres divided into five fields and to think of manuring all this land is out of the question. It would require all my labourers all the year to do so even if I had the manure. But it is impossible to get the manure, and this, if no other obstacle existed, renders it altogether useless to think of it.

The above is a brief but comprehensive view of the arguments used by farmers generally against the system of manuring their lands, and we propose offering a few remarks on the subject, to show that they are altogether unsound, and predicated upon most erroneous principles. There are certain fixed principles or rules in the science of agriculture which cannot be disregarded except at the expense of prosperity; and the first and most important one is, that nu more ground should ever be brought under tillage than can be cultivated well by the force at the command of the farmer. It is to the neglect of this most salutary rule that all the faults of our agriculture are to be attributed. If a farmer finds that his land is becoming unproductive, and that he is unable to keep it up by manuring, he may be assured that he is cultivating too much, and his only remedy is to abridge his fields to the dimensions which he is able to manure, no matter how small they may be. If he has a force capable of cultivating one hundred acres in the old way, let him put the whole of that force upon twenty-five acres and pursue a system of high culture. The first year he will probably not make as much as he would have done in the old way on the hundred acres; but the second and forever afterwards he will make more, and this with less labour. As to a want of manure, this is generally imaginary—every farmer by judicious management can get or can make enough for his purpose. He cannot, of course, expect manure to descend upon his land like a shower of manna, any more than he can look for a fine crop of corn without planting; but by proper exertions every farm in the United States can be manured with less expense than the surplus profits arising from the manure would come to. This we sincerely believe, and we have arrived at this conclusion from long and attentive observation. We never yet saw a farm that we could not point to means of manuring and bring into a state of high and profitable cultivation at an expense altogether inconsiderable when contrasted with the advantages to be derived from it. The means of manuring are as various as the soils; but there are some more prominent than others. One source of manure is almost universally overlooked, and that is swamp and marsh mud. Swamps, creek bottoms and marshes, are generally allowed to run wild with bushes and wild grass, and are really so much land subtracted from the superfices of the farm, besides becoming sources of disease, and objects of disgust to good taste. These should be resorted to for manure. The rich mud they contain is a mine of wealth to the proprietor. And yet how universally are they not only overlooked but absolutely passed by in utter ignorance that they are any thing but a pest to the farm. Select one hundred farmers who have such places on their farms, and ninety-nine of them shall not only consent to sell them cheaply, but shall gladly consent to give their valuable contents to any one that will take them away. There is a piece of land not far from Baltimore, that has been worn out and turned out as a barren old field for ten or fifteen years past, that has a bed of marsh mud immediately adjoining it that would cover its whole surface a foot deep, and render it one of the richest and most valuable pieces of land in Maryland. And yet this valuable piece of land lies utterly neglected and worthless, notwithstanding the means for its renovation are so completely within the power of the owner. We have often looked at this land with astonishment that such a source of wealth should be so entirely neglected. But this is not a solitary case—there are thousands like it.

The gathering of leaves is another source of manure of immense value. Every farmer can manure more or less land by this means every year. Animal manure, too, is too much neglected, too often allowed to waste its precious substance wherever it may by chance be dropped. There are always persons enough on every farm to collect and convey to an appropriate place every particle of cattle or horse dung that may be dropped, and this should no more be neglected than the gathering of the corn when it is ripe. Children and infirm persons are competent to this duty and should be kept at it. It is not enough however, to gather this manure—it must be properly taken care of after it is gathered. It should be protected from rain, and be put in such a place as will prevent the liquid that may drain from it from being wasted, for this is its most valuable part. There are many other sources of manure, and we shall occasionally call attention to them; but our purpose now is more particularly to discuss the question of the practicability of manuring at all.

We do not pretend that cultivators of the present immense tracts can manure all the land they now cultivate; but we contend that they can, and that it is to their interest, to manure some part of it. Whatever manure may be at hand should be applied to such portion of land only as it will manure well. To scatter one hundred loads of manure over a hundred acre field would be throwing it away. Let it be applied to five acres or even to two acres if the land be very poor; and the next year let another small piece receive the same treatment; and thus gradually bring into a high state of cultivation a portion of the farm. This would enable the farmer to judge of the expediency of concentrating his means upon a smaller piece of ground. For if he can make five hundred bushels of corn on ten acres of well cultivated land, it is clear that it will be more profitable to him than to make the same quantity on fifty acres; and that he can do so is not a matter of doubt. If farmers generally were to give away three fourths of their land, and put all their present force upon the remainder, they would make money by the proceeding. The evil then, to which is to be attributed the present poverty of the agricultural interest, is not the inability to manure, nor the scarcity of manure, but the attempt to cultivate too much land; which, as we have seen, is a violation of a principle in agriculture, on the strict observance of which the prosperity of the farmer entirely depends.

[The frequent notices of the fine gooseberries grown in the garden of Isaac McKim, Esq. of this city, has caused numerous applications to us for the mode pursued in their culture. The following brief but comprehensive article, has been handed to us by Mr. Mc Kim, and clearly describes the method pursued in the successful cultivation of his gooseberries. There appears to be but one omission, and that was probably considered so palpably necessary as not to require special notice;—that is, the selection of the best kinds of gooseberries for cultivation, without which all modes of culture must of course fail.]

On the Proper Cultivation of the Gooseberry.

When the plants are two years old take them up from the nursery and trim off all the suckers, and lower branches, leaving only one stem with a few branches at the top. Plant them in a rich light soil in a moist situation, and where they will be partially shaded by branches of trees. In the autumn, cover the ground around them with manure from the cow yard. The latter end of February thin out the branches very much, cutting them off close to the stem, taking out all such as cross each other, but be sure not to shorten the branches, for that causes them to throw out a great deal of wood and very little fruit. In the spring a quantity of young suckers will come up round the stem, all these must be cut off when green, as also any others that grow in the middle of the bush, which must be kept open so as to admit the air freely. It is also a great support to the bush to drive a stake into the ground close to the stem, as keeping it steady causes the fruit to be larger. This treatment is to be continued annually, and the fruit instead of depreciating as is usual, will rather improve in size, as has been proved by some planted 15 or 20 years ago. The ground must be spaded in the spring and kept perfectly clear of weeds.

Steamboat—Governor Wolcot,
Sunday Oct. 9, 1831.

To the Editor of the American Farmer:

What Next?—*Philosophers and "practical men"—power and uses of Steam—Floating Steam Saw Mills, &c. &c.*—So numerous are the purposes for which *steam power* is now used, that the mind is lost in attempting to limit its applicability, and we no longer wonder at the otherwise astonishing phenomena that make their appearance in the progress of experiment.

Not many years have elapsed since an animal of that species yclep'd *philosophers*, despised as useless by "*practical* men," twirling his thumbs and ruminating at his homely fireside, observed the *action of steam* on the top of his *tea-kettle;* and straitway began to *speculate*, on its susceptibility of condensation, its expansibility, and its convertibility as a mechanical agent to the useful purposes of life. Thus it was that the spark was stricken from the flint; the fire kindled and the flame spread; experiment followed experiment; the philosopher, it is true, was laughed at, his anticipations were derided as chimeras, whilst he smiled in good humour at the jeers of the "practical men" and persevered; until, after some years, a *boat* was made to move at the rate of four miles an hour against wind and tide, and this rude result was pronounced by the timid and short sighted to be the *ne plus ultra* of the *tea-kettle* discovery! But what have not a few years more brought forth? By steam power are the piles driven and the foundations laid, on which to build, in heretofore inaccessible places, dock yards and light houses that bid defiance to the tides of the ocean, and the storms of heaven; by its potent agency, splendid cars, filled with joyous passengers, go flying over cloud cap't mountains, and the boundless expanse of the stormy ocean becomes a safe and common highway for all the human family; thus has the *philosopher's* tea-kettle conceit, been elaborated and applied to every variety of object, from the manufacture of a cambric needle to the forging of the anchor and the cannon; until at last, in the fulness of admiration, even "practical men" admit it to be the most sublime conception of human genius, and that which erewhile was regarded as the rhapsody of a sanguine temper, may now be quoted as the forebodings of inspired genius.

"Soon shall thy arm, *unconquered steam!* afar
Drag the slow barge, or drive the rapid car;
Or on wide-waving wings expanded bear
The flying chariot through the fields of air.
—Fair crews triumphant, leaning from above
Shall wave their fluttering 'kerchiefs as they move;
Or warrior-bands alarm the gaping crowd,
And armies shrink beneath the shadowy cloud."

But my chief purpose in taking my pen was not so much *to our passer le temps,* on board of this boat where I have two *bons companions,* as to communicate *a fact,* which I am persuaded many of *your readers* will learn with pleasure, as it may be regarded of great importance to *landholders* residing on our numerous water courses in Maryland and Virginia. You must be aware that in many situations there are bodies of valuable timber trees, oak, ash, pine, poplar, &c. which cannot be got to market, but which they will soon have an opportunity of selling to *floating steam saw mills,* that will pass along the shores, to *haul on* board and saw up at the rate of 14000 feet per day, logs that could not heretofore be handled and transported.

Messrs. Boyer & Klinefelter, lumber merchants, on the largest and most respectable scale, have bought the steamboat United States, and will soon have in motion, on board, without any alteration of her machinery, which is of sixty horse power; *four whip saws* that will cut out timber at the above rate. This boat will ply over our water courses, and every species of timber, no matter what may be its locality if it can be rolled to the water side, will be *hauled on board and sawed up as above stated.* Four saws with about twelve hands to attend, will be kept going night and day, and the motion is found to be steadier than that of the common saw mill. Who can calculate how much has been lost for want of such a convenience—who will say that its establishment is not one *good stride more* in the "march of intellect."

Yours, J. S. S.

Died, in Austin's settlement, Texas, on the 27th August, Wm. R. Dickinson, late of Steubenville, Ohio.

Mr. Dickinson was, till within a year or two, one of the first and most extensive wool growers of the western country, and it is to him more than to any other man, that that section of the union is indebted for the introduction and improvement of fine wool sheep.

Prices Current in New York, Oct. 8.

Beeswax, yellow 18 a 21. *Cotton*, New Orleans .10 a .12; Upland, .7½ a .10; Alabama, .8 a 11½. *Cotton Bagging*, Hemp, yd. 14½ a 17; Flax 13 a 14½; *Flax*, American, 7 a 8.—---*Flaxseed*, 7 bush. clean .—-- a .—— *Flour*, N. York, bbl. —-- a 5.62; Canal, 5.81 a 6.00; Balt. Hwd.st. 6.00 a 6.12; Rh'd. city mills 6.25 a ——— country, 5.75 a 5.87; Alexand'a, 5.75 a 5.94; Fredericksburg 5.75 a ——; Petersg. 5.75 a 6.00; Rye Flour, 4.00 a 4.12; Indian Meal, per bbl. 3.75 a 3.87; per hhd.

17.00 a 17.25; *Grain*, Wheat, North, 1.12 a ——; Vir. 1.16 a 1.23; Rye, North, 80 a —; Corn, Yel. Nor. — a 70; Barley, 1.00 a 1.03; Oats, Sth. and North, .38 a 44; Peas, white, dry, 7 bu. 5. Beans, 7 bu. 7.00 a 8.00; *Provisions*, Beef, mess 7.50 a 8.00; prime 4.75 a 5.25; cargo 3.50 a 4.00; Lard, 9 a .10¾; Pork, mess, bbl. 13.50 a 14.00; prime 10.00 a 11.00.

FRUIT, ORNAMENTAL TREES, SHRUBS, AND PLANTS.

Sinclair & Moore,

Informs their friends and the public generally, that their stock on hand this season is large, of thrifty well grown trees, except those marked on the catalogue. The fruit in this establishment are all carefully grafted or inoculated mostly from bearing trees, of the choicest collection of American and European fruits.

This nursery will afford purchasers in our own state the important advantage of planting their trees on the first, second, or third day after they are taken out of the ground, (provided the holes for the trees are previously dug, which they always ought to be,) having quick transportation to most every part of the state.

Printed catalogues for this season describing the names of plants, time of ripening, and price, as also directions for planting, to be had gratis at their Plough and Seed Store, Pratt street wharf, Baltimore, or at their Nursery, three and a half miles east of the city, between the Philadelphia and Bellair roads; the best and nearest way to go to it is by going out the latter road two miles, to a pointer of further direction. The senior partner resides on the premises, and constantly superintends the same, and would be pleased to see persons disposed to encourage, or view their extensive collection, where they can see and choose for themselves.

For the information of those who are not in possession of a catalogue, they will mention some of the principal articles ready for sale, to wit:—

Apple, Pear, Peach, Plum, Cherry, Apricot, Nectarine, Fig, Gooseberry, Currant, Raspberry, Strawherry, Quince of sorts—Grape Plants, fine size, many choice kinds, Thorn and Honey Locust for hedges.

ORNAMENTAL TREES.

English Elm of middling and extra large size.

Italian White Mulberry, of do. and large do.

Horse and Spanish Chestnut.

Linden and Sugar Maple Trees, Paper Mulberry, Abeal or Silver leaved Poplar, Yellow and Honey Locust, Chinese Aleanthus, or tree of Heaven, English Walnut, Mountain Ash, Buttonwood, Black Walnut, &c. &c. Balm of Gilead, or Silver Fir, White or Waymoth Pine, Dwarf Box, Cutting and Rooted Plants, Black Double Spruce, Arborvitæ.

ORNAMENTAL SHRUBS.

Roses, both hardy and Chinese or ever blooming, a good assortment, Double Althea a superior collection, Linock five kinds, Snowberry Tree, Grounsel Trees, Roseacacia, Corchories, Scarlet Trumpet Creeper, White Flowering Virginbower, White Flowering Jasmine, Yellow Flowering do., Scarlet Trumpet, Monthly Honeysuckle, White Striped Monthly do. of exquisite fragrance, Multiflora Rose, Graville's Superb Multiflora, cuttings of Grape, Apple, Peach, &c.

EDUCATION.

The services of Mr. Hugh Hawthorne, late Graduate of the University of Glasgow, are engaged in the Bolton Institute. In the certificates which Mr. H. has exhibited, the most honourable and satisfactory testimony is borne to his character as a gentleman and a christian, his talents and acquirements as a scholar, and his qualifications, in general, as an instructor of youth, not only in the Classical department, but also in the Mathematics, and all the branches of a complete English education. The certificates, referred to, bear the signatures of the Professors of the College of Belfast in Ireland, where Mr. H. passed through a regular course of Academical studies, and of Sir Daniel Sandford, Professor of Greek, and other distinguished Professors of the University of Glasgow. The subscriber feels, therefore, that he can, with entire confidence and perfect safety, recommend this gentleman to parents and guardians.

The course of instruction in the Bolton Institute, embraces Classical learning, the Mathematics, and all the practical branches of an English education. The boys, during the intermissions of study, which are usually wasted in idle and riotous plays, will all of them, uniformly be engaged in healthy and useful exercises on the farm, in the garden, or in a work-shop appropriated to such ordinary mechanic arts as are of daily use, and a practical acquaintance with which, is of great value and importance to every man whatever may be his rank or calling in life. Pupils are admitted at a very early age,—as soon as they can read and write tolerably. The charge for each, embracing tuition, board and washing, is $200 a year, payable semi-annually, in advance. Books and stationary, and all other incidental expenses, form an additional charge. Every new pupil is required to bring with him a bedstead in length 5½ feet, breadth 2½ feet, with mattress, bed clothes and towels.

There are, in this Institution, three vacations in the course of the year; one of a fortnight's duration, commencing in the middle of April, another extending through the month of September, and the third comprised within the Christmas holidays.

Accommodations are now prepared for the reception of thirty boys.

The Farm pertaining to the Bolton Institute consists of about 60 acres. A highly respectable English farmer is engaged upon it. Six boys, the sons of respectable parents, and between the age of 12 and 15 years, will be received, to be placed under him, in the capacity of apprentices. These boys will be thoroughly instructed in the practical branches of an English education, and in the whole business of agriculture: for which advantages, together with board and washing, the charge, in favour of the Institution, will be $100 a year, payable half-yearly, in advance.

W. CHADERTON.

Bolton Farm, near Bristol, Bucks County, Pa. Sept. 22, 1831.

DURHAM SHORT HORN CATTLE.

For sale several Cows and Heifers of the above breed, full blooded, and also others of different grades of blood. Apply to the Editor of the American Farmer.

TO THE PUBLIC.

Having assured my friends and patrons that should I ever find it necessary to lower the prices of my PLOUGHS, that I would give public notice thereof, that every gentleman may know the price he will be charged before he sends his orders—I therefore submit the following reduced prices to the public, which will be my charge from the date hereof.

Balt. Sept. 17, 1831. J. S. EASTMAN.

No. 6	a small Seed Plough, - -	$4 50
7	also a seed do. - . -	5 00
7	improved and a heavier Plough, -	5 50
7	Bar Share for stony land, - -	6 00
8	one or a small two horse Plough, -	5 50
8	large size improved small 2 horse do. -	6 00
8	Bar Share for rough soil, - -	6 50
9	small 2 horse Plough, called the poney do.	7 00
9	large size heavier Plough improved, -	7 50
9	Bar Share Plough for rough soil, -	8 50
	Sword Coulter for the same $1 50.	
10	a large 2 horse or small 3 horse plough,	9 00
10	Bar Share for rough soil, - -	11 00
	Sword Coulter for the same $1.75.	
12	a large three horse Plough, - -	14 00
	Sword Coulter for the same $2.00.	

For sale improved Barshare Plough, and the Scotch Plough improved by Geo. Glezy, together with his usual assortment of AGRICULTURAL IMPLEMENTS and Grass Seeds. He has also received by ship London Packet, a fresh assortment of GARDEN SEEDS, which are believed to be of superior quality. J. S. E.

WOOL WAREHOUSE.

LYMAN REED,

Commission Merchant, No. 195 *Baltimore street,*

Devotes particular attention to the sale of WOOL. Any consignments of the article forwarded to him for sale, can be disposed of immediately for CASH, at the highest market price.

CASH, and a fair price, will be paid for a few thousand pounds of *good wool*, (if offered immediately,) to supply orders now on hand.

Refer to Messrs. Cobb, Wyman & Co. Baltimore.

BALTIMORE PRICES CURRENT.

Baltimore Market.—There is scarcely any change in any article of produce. Howard street flour from wagons remains at $5.62½, from stores at our quotations A few lots superior white wheat have been sold at $1.25, and sales of common red have been made within the range of our rates. There is scarcely any thing else worthy of remark in the country produce trade at this time.

Tobacco.—Seconds, as in quality, 3.00 a 5.00; do. ground leaf, 5.00 a 9.00.—Crop, common, 3 00 a 5.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 10.00; yellow and red, 8.00 a 14.00; yellow, 14.00 a 16.00.—Fine yellow, 16.00 a 20.00.—Virginia, 4.00 a 5.00.—Rappahannock, 3.00 a 4.00——Kentucky, 3.50 a 8.00. The inspections of the week comprise 781 hhds. Md.; 29 hhds Ohio—total 810 hhds.

Flour—best white wheat family, $6¾ *a* 7.25; super Howard-st. fresh $5.75 *a* ——; city mills, fresh 5.25. 5.50; Susq.— *a* —; Corn Meal, bbl 3 50; Grain, Md. red wheat, 1.00 *a* 1.10; white do. 1.17 *a* 1.25, Susq. — *a* —Corn, white, 52 *a* 55—yellow 53 *a* 55—Rye, 65 *a* 68. Oats, .33 *a* 35. Beans, 75 *a* 80—Peas, 65 *a* 70—Cloverseed 5.00 *a* 5.25—Timothy, —— *a* 2.50—Orchard Grass 1.50 *a* 2.00—Tall Meadow Oat Grass 2.00 *a* 2.75—Herd's, 75 *a* 1.00—Lucerne — *a* 37½ lb.—Barley, —Flaxseed 1.25 *a* ——Cotton, Va. 8 *a* 9———Louisiana 9 *a* 12 —Alab. 9 *a* 11—Tenn.. 8½ *a*. 9½; N. Car. 8½ *a* 9½—Upland 8 *a* 10—Whiskey, hhds. 1st p. 33 *a* 33½—; in bbls — *a* 35——Wool, *Washed*, Prime or Saxony Fleece 58 *a* 67; American Full Blood, 50 *a* 56; three quarlers do. 44 *a* 50; half do. 38 *a* 44; quarter and common do. 35 *a* 38. *Unwashed*, Prime or Saxony Fleece, 33 *a* 37; American Full Blood, 30 *a* 33; three quarters do. 28 *a* 30; half do. 25 *a* 28; quarter and common, 22 *a* 25——Hemp Russia ton, $255 *a* —; Country, dew-rotted 5½ *a* 7c. lb. water-rotted. 7 *a* 9c.—Feathers, 36 *a* 37; Plaster Paris, per ton, 4.37½ *a* —, ground, 1.37½ *a* — bbl. Iron, gray pig for foundries per ton 33.00 *a* ——; high pig for forges, per ton, 28.00 *a* 30.00; bar Sus. per ton, 72.50 a 80.00.—Prime Beef on the hoof, 4 50 *a* 5.00—Oak wood, 3.00 *a* 3.25—Hickory, 4.25 *a* 4.50—Pine 2.00 *a* 2.25.

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TERMS.

1. Price five dollars per annum, due at the middle of each year of subscription.
2. Subscriptions are in all cases charged *by the year*, and never for a shorter term.
3. When once sent to a subscriber, the paper will not be discontinued without his special order; and then not till the end of the year of his subscription that shall be current at the time of receiving such order; except at the discretion of the publisher.
4. The risk of mail in the transportation of both the paper, and of bank notes sent in payment for it, is assumed by the publisher.
5. Advertisements connected with any of the subjects of the American Farmer, inserted *once*, (seldom more) at one dollar per square.
6. All letters concerning this paper must be directed to the publisher. They must be free of postage, except communications intended for publication, and letters containing money.

☞ All Postmasters are requested to act as agents for the Farmer they are authorised to retain $1 for each new subscriber, and 10 per cent. on *all other* collections.

Printed by John D. Toy, corner of St. Paul and Market streets.

AGRICULTURE.

MARSH-MUD, &c.

Talbot County, Eastern Shore, Md.
Mr. Smith: *October* 12, 1831.

I do not know how I can more satisfactorily answer the polite call of "Potomac" than by giving some account of improvements made on one of the farms alluded to in my last, by the application of bank-shells, sea-ware, marsh-mud, and heads of creeks, aided by a well conducted farm-yard. These have been so remarkable as to have had a beneficial effect in this county, and I think such examples should be made known as widely as possible for general benefit.

I select this farm, *Emerson's Point*, in particular, because no one can pretend that *capital* had any agency in restoring its fertility. It lies near the mouth of Mile's river, emptying into the Eastern-branch of the Chesapeak bay, and contains two hundred and seventy-five acres. It was purchased by the father of the present proprietor, Mr. Wm. Hambleton, about the year 1790, at 40s. Md. currency—5.33 dollars, per acre,—and was occupied by a tenant, as it had been for two or three generations, until the year 1808, when the proprietor married and settled on it. The soil is a stiff yellow clay—growth chiefly pine: it was worn down to the lowest state of sterility: a considerable portion had been suffered to run into pine thickets, where the corn ridges are still visible; and it was nearly destitute of the buildings indispensable to a farmer. But the means of improvement were at hand: the proprietor knew their value, and lost no time in availing himself of them. He had *no capital* of any kind: but he was young, skilful and industrious. Having no slaves he commenced with two hired hands, and, occasionally, two boys, two horses and a yoke of oxen. The arable land was one hundred and twenty-nine acres, but his operations, for many years, were confined to ninety-nine acres—a poor field of thirty acres, distant from his resources, he left idle, unenclosed. He laid off these ninety-nine acres as follows:—two fields of 45 each, two lots, 5 and 1½, orchard and garden 2½ acres. For his first crop, to make a *push*, he selected his best land, including the old tobacco ground near the house. From forty-five bushels of wheat seeded Sept. 1807, he got a crop of one hundred and fifteen, less than three for one. In the spring of 1808 he planted corn on one half of his other field, after getting out a considerable quantity of bank-shells and sea-ware, and left the other half, *under the same enclosure*, for fallow, to be manured as opportunity might permit during the summer—and this plan he continued to follow about eight years, and would have continued it longer but for the inconvenience arising from the want of *pasture*. It is to be regretted that he did not keep an exact record of all his crops: however, he assures me that the following may be depended on as very near the truth. His first crop of corn was eighty-five barrels, his second thirty-five, of which twenty were short corn. (It may be well to mention that a barrel of corn is five bushels of *grain*, or ten bushels of *ears*.) His second crop of wheat was two hundred and fifty bushels from 45 of seed, being five and a half for one. His third crop of 350, nearly eight for one. Fourth 500, fifth 700—and so on, increasing every year, until, in the year 1816, having altered the arrangement of his fields from two of forty-five to three of thirty acres each, he reaped from sixty-seven and a half of seed a thousand bushels of prime wheat,—one half on corn land—the other fallow. This crop he had the good fortune to sell at two dollars 91 cents per bushel, and the good sense, although not pressed, to apply the proceeds to the payment of debts necessarily contracted in the erection of buildings, among others an excellent barn, and the purchase of three or four boys; and various expenses incident to a new establishment and growing family. It should be remarked also, that, until the end of the year 1818, his land was burdened with a third of the estimated rent, as dower.

No memorandum can be found of his crops for the three succeeding years, nor does he recollect the amount; but they were not so great as that just stated. He failed in one crop from defective seed which he purchased.

In 1820 he reaped eleven hundred and twenty-seven bushels from ninety of seed, thirty of which was sown on the out-field before mentioned. This, and several other crops to be noticed, he has on record. In 1823 his wheat crop from seventy-two was one thousand and thirty-nine bushels—nearly fourteen and a half for one.

In 1830, from 88 of seed he reaped fourteen hundred and ninety-seven bushels of wheat, 17 for one—one half from corn-land, the other fallow—thirty acres each—the fallow yielded *twenty five for one*—see some account of this crop in the Farmer about July 1830.

Last year, being much occupied in repairing and building, he seeded only fifty bushels of wheat, which produced a crop of six hundred and twenty-eight bushels. All this was on corn-land except a lot of five acres, which, from seven and a half of seed, gave one hundred and fifty-seven bushels, nearly *twenty-one for one*. I have confined myself principally to an account of his wheat crops, because he could not inform me with so much accuracy the amount of his corn crops—they were generally good, seldom falling below three barrels to the thousand and frequently reaching four. His greatest crop of corn was in 1827, from two of his thirty acre fields, five hundred and twenty barrels.

Last year he bought five thousand bushels of oyster shells, at the cost of one hundred dollars,—burnt and spread them as far as they went, at the rate of 200 bushels per acre just before planting corn, on the out-field, which got also a dressing of farm-yard manure. The crop of corn, just gathered, is fair—few in the county better.

His shell-banks giving out and the drifts of sea-ware being less abundant than formerly; about eight years ago he commenced the use of marsh, and heads of creeks, of which he thinks favourably, paying strict attention, as usual, to the farm-yard and compost heaps. He has one now, containing upwards of a thousand *skates*, or double-heads, taken a few weeks ago in his seine,—from this he calculates on a thousand cart-loads of manure for his corn-land next spring. From their livers he extracted seventy-three gallons of oil. From experiments made last year with similar oil, he is of opinion that it is a remedy against the worm, so destructive to the peach tree. He does not spread sea-ware so thick as I recommended in my last, on account of the difficulty of ploughing in—nor would he recommend the shells to be put so near—intervals of five lands should be left:—between marsh, &c. three. I readily yield to his superior judgment.

For fourteen or fifteen years past he has made great use of the sickle—much of his wheat being too rank for the cradle. He ploughs about four inches deep, and cannot be induced to go deeper—in good land sows a bushel and a half to the acre, in poor one bushel; breaks his fallow ground about the middle of June—cross ploughs soon after harvest—rolls and harrows—and, if likely to be grassy, gives it a third ploughing—puts in with the plough, very shoal, in narrow ridges, keeping his manure near the surface. I consulted him respecting the question of Potomac: he is of opinion that no danger is to be apprehended from the application of rotten marsh to growing crops if put on in reasonable quantities.

It will be observed that this farm, notwithstanding its rapid improvement, has been *severely cropped*,—present gain, from necessity, being the main object. The proprietor was not insensible of the value of clover as an improving crop; but he could not let it remain long enough to be of much use to the land. He never cut but one field crop of it, 1825, upwards of fifty tons from thirty acres. Hereafter, having got his out-field in pretty good order, he will adopt the four-field system, cutting one field of clover every year. His regular force is five able hands, with some small boys,—he runs three ox and two horse-carts—has never kept an overseer, and for many years laboured daily. I have not thought it necessary to state his root-crops—the produce of his hog-pen, &c., supposing that his principal crops would clearly show the progress of improvement.

There are three other farms within a few miles of Emerson's Point, on which wonderful improvements have lately been made. I mean those of Colonel John Tilghman, Mr. Edward N. Hambleton, and of Doctor John Barnett. I hope they will favour the public, through the columns of your useful paper, with an account of their management, crops, &c. There are other farms in the same neighbourhood which deserve honourable notice and minute description; in particular, those of Mr. Rigby Hopkins, Major Wm. Caulk, Mr. Joseph Harrison, and Mr. Stephen Harrison, improved, principally, by the use of *shell-lime*.

My thanks are due to "Potomac" for the liberal manner in which he has received my statements, which I have endeavoured to make as accurate and plain as possible. Cornplanter.

(From the Library of Useful Knowledge.)

FARM REPORTS.

III. COUNTY OF SUTHERLAND.

Strathnaver, Morvich, and Culmaily Farms.

Communicated by Patrick Sellar.

(Concluded from page 243.)

Speaning.—Then to begin with the lambs. At speaning (weaning) time, which happens in the sale ewe hirsel about the 11th, and in the keeping flocks about the 18th of July, the lambs are found with the marks which had been put upon them at cutting time in April and May, and which consist of the ear marks of the owners and the figure or "buist mark" of the hirsel. This figure on the pack sheep was reverted on the shoulder to facilitate after sortings.

The operation begins by gathering the flock, shedding off yell sheep (or those which have no lambs,) and telling the numbers on hand. This generally occupies a day. The yell sheep being despatched to their proper places the ewes and lambs are committed to their ewe herds, who watch them during the short nights of this season. By daylight next morning, the flock is folded; by seven, the lambs are separated from their mothers; the mothers sent off under their own shepherds to the barren ground where their milk is to be dried up, and the lambs left in three folds. The first contains wedder lambs, the second ewe lambs, and the third packs. At this stage the men generally breakfast in the fold; immediately after which the wedder lambs are divided into three sorts, called tups, mids, and paleys. The tups are branded with a hot iron, buisted with a distinguishing tar mark, and, under charge of the second wedder hog herd, despatched to a tract of coarse pasture along the banks of numerous little burns (on 5 and 6) which fall into Loch Laygal, there to be tended until the middle of September The mids are in like manner branded and buisted, delivered to the third wedder hog herd, to be summered, until the middle of August, on No. 2, where several little burns fall into Badanloch; and the paleys (young weak and stunted lambs) are, under the charge of one of the principal men, sent directly to the hay fog or aftermath, and other succulent food prepared for them at Culmaily. The ewe lambs are then sorted into three lots:—First, the paleys are chosen, branded, buisted, and despatched straightway to the hay-fog prepared for them on Morvich. Secondly, the worst-bred lambs are despatched to the outskirts of the wedder herding, intended to be in that year shifted to hogs. And, thirdly, the tops (the moist choice and best breed) possess the outskirts of the ewe herding, to be in that year shifted to hogs. The packs, or shepherds' lambs, are divided into two sorts, sellers and keepers: the first, being *keeled*, or marked with red chalk, are delivered to the buyers, or put into an inclosure to wait their arrival; the second are divided among the flock lamb hirsels. This concludes the speaning.

Wedders.—When the small wedder lambs reach Culmaily, generally to the amount of fifteen to twenty scores, they are, after a few day's rest on the Sandstone mountain, minutely examined, any lame ones dressed, the weakest portion put into the hay-fog, then about three weeks old, and the rest admitted to the sweetest of the mountain-grass. About the 12th August the sale wedders are delivered, and the mid lambs from No. 2, and the best of the paleys, are admitted to their place. By the 12th September the rape is ready for use: the lambs, then paley, are sent to five hours' rape and nineteen of heather in the day and night. The mids are admitted to the place formerly possessed by the paleys, and the tops from No. 5 and 6 to the former position of the mids. In this posture the lots remain until about the 15th October: the early turnips being now fit for use, nets are set up across the tops of each of three fields, a lot smeared[*] into each, and five hours' turnips to nineteen of heather[†] allowed for the rest of the season. With March comes the cotton-grass flower; what turnips remain are then mostly consumed by cattle, and such of the wedder hogs as are fit to face the blast proceed to Straithnaver—the best lot by the first week of March, the next about the third week of March, and the worst about the 1st of April: one or two scores may be unfit to go sooner than Whitsunday.

It is observed at speaning time that the paleys consist of two sorts, *viz.*, first, well-bred lambs, which, by reason of being very young, or twins, or badly fed by their mothers, or some other misfortune, are much under size; and, secondly, ill-bred lambs, marked by a *tendency* to short, stubby faces, broad bumpy wiry browns, flat ribs, sharp shoulder-top, round gurning-bones, and twisted legs. When the spring sortings take place, the well-bred mids and paleys are generally found to have advanced themselves to the tops; the ill-bred sheep have as certainly sunk to the bottom, and the last one or two scores which, with equal or superior feeding, lie on hand until Whitsunday, are nearly altogether composed of that sort of stuff.

And here the writer cannot help anticipating an observation, which perhaps would have come in better further on—that the difference in expense of keep, loss by death, and of ultimate profit, in favour of well-bred and against ill-bred stock, is so great and striking on a sheep farm, that the apathy of many stockmasters to the subject is incredible. The reporter and his leading men, year after year, have observed the lamb of a bad ewe a mid or paley—the same lamb unfit to go out in spring—the same beast brought in to make up for sale in its last year—and after all this extra expense, sold as a shott, at twenty per cent. under the price of the lot, merely on account of the base blood which flowed in its veins.

When the month of June has brought its interminable day, the wedder hogs yield their first fleece. They are then called dinmants; are set back to the deer hair; and when it fails in August, and the sale wedders have gone south, they are sorted into their wedder herdings to replace the waygone lot of the last year's ewe hogs; and after two years' stay there, they travel, in their turn, to the feeder.

Ewes.—The ewe lamb follows a course somewhat different from the wedder. At the delivery of the sale sheep, it falls into the finest grass on its herding—the paleys in Morvich—the worst bred full-grown lambs in the wedder herding—and the choice lambs in the ewe herding, made vacant by the cast of the sale sheep. The intention of this arrangement is, that the keeping lambs may, as far as possible, be at once haifed to that herding where they are to be settled as ewes; the deaths, &c. be beaten up from the best bred of the second chosen lambs and paleys; and those least fit for breeding be yelled off for sale—the the smallest in the ewe herdings by being protected by means of a contrivance called "brecks,"[*] and the largest and strongest by being sent to the herding No. 3, which abounds in those plants best calculated to give increase of bone.

The contrivance of yelling or breeching a certain number of ewes in each herding, besides the advantage it offers in the improvement of the breed, answers an excellent purpose at lambing-time; for the yell ewes being all sorted off the herding a few days before the lambing begins, a greater abundance of feed is left to bring milk on the ewes, and thereby to put layer on their lambs—an article which it becomes the policy of the store-farmer never, if he can, to lose until he quit the sheep to the feeder.

These ewe flocks are tended, as formerly explained, in three double herdings, and one smaller or single herding; and it was also observed, that one of these double herdings is cleared out annually, to receive the choice or keeping ewe lambs. The single herding yields a third of its number annually, and receives from the second lot of ewe hogs its proportion of young stock. By this contrivance, the ewes can be sorted into three kinds: what approaches to tenderness is sorted down to the single herding, No. 8; what is open in the staple, or inclined to be pinny in the fleece, are haifed below the double shepherd's house; what is bad skinned, above it. By keeling, or marking with red chalk, the hardiest tups to No. 8, the saddest skinned to the under end, and the loftiest and most open skinned, to the upper end of the double herding, the whole flocks are kept in that medium, betwixt the two extremes, which every store-farmer knows to be essential to good farming, and to the sale of that quality of stock and wool that brings the greatest *sum* of money out of the market.

Tups.—In treating of the wedder sheep, allusion was made to the necessity of possessing well-bred Cheviot sheep: this, in the writer's very humble opinion, is a condition absolutely required for the purpose of realizing the greatest possible value from Sutherland mountain ground.

The reporter has seen tups very showy to look at from a distance, and full of wool; but on approaching them more nearly, the observer must have been struck with how the feet were quite under the carcass, the breast and twist much narrower than to all appearance was compatible with so broad a carcass; with a hollowness or flatness betwixt the eyes, some bristly hairs on the forehead, and very likely an offer to produce a stubby horn; of which the point, like a small nipple, is just discernible where that ornament grows on horned sheep; and, on the whole, the head turns out to be larger than at first sight it was thought to be. Touch him, and you will find a flat neck, narrow hard shoulder, small tail, flat rib, and the back, where the ribs strike out, hard as a deal board; he has very little layer or wool along the back, but (if in condition) exhibits a mass of grease and wool midway down the rib; while he will clip at a show from ten to fifteen pounds of wool, of the quality of hemp. This class of sheep is the parent of shotts; his progeny will pay nothing to the breeder, feeder, or butcher, compared with the truly bred Cheviot sheep.

Upon which then these three questions arise—where is this truly bred Cheviot sheep to be found? How chosen? And how shall his blood be best infused into the flock? These are questions which the reporter will answer with diffidence, being conscious that many breeders are much more capable than himself to answer them satisfactorily. Still the Society having done him the honour to call for *his* report, he will send his opinion and his practice together, and will feel too happy to have them amended in any particular.

I.—The breed of Cheviot sheep from which he has chosen, and would again choose his stock (were that to do,) feed on the Scotch side of the Cheviot hills, and along the tract of high and stony moorland farms which stretches out betwixt that mountain range and the source of the Teviot: on the English side there has been, generally speaking, too much of Dishley blood applied, to have left in the animal the thrift, courage, and constitution necessary for the wastes of the county of Sutherland. West of the Teviot, again, it is within the memory of man since the stock was crossed in, from the *ovis aries rustica*, or black-faced sheep—a cross, of which the first is the best, as is the case in all crosses betwixt animals so entirely different from each other.

The spirited farmers of the western district have, for many years, been importers of tups from the east border; and the circumstance has not, perhaps, in every case, been favourable to the flock from which the importation was made. When this trade began, the west-country breeders fancied sheep with very fine bare heads, flat clean bones, and a short fine fleece, to counteract, as quickly as possible, the opposite qualities of their own flocks. In order to suit the market, the tup-breeders preserved only the finest of their young store. But the west border gentlemen had not gone through many generations, when they found that the cross had been too quick: a reaction followed, and, to the surprise of the tup-sellers, the top was turned to the bottom, the bottom to the top of the fair, and nothing could be sold but tups of coarse quality. The tup-breeders turned with the tide—a few to an extreme degree; many stopped short at the *certos denique fines*, where good management ends; and, certainly, the right stuff, and the most beautiful specimens of well-bred Cheviots, are only to be found in this quarter.

II.—As to the choice of a tup. After Mr. George Culley's description, which is in the hands of every breeder,[*] it would be presumptuous in the writer of this report to say more on that subject than respectfully to point out the shades of difference betwixt Mr. Culley's picture and the quality thought to be suitable to the county of Sutherland:—

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[*] The smearing is an application of salve composed of butter or oil mixed with tar, turpentine, or some other substance, to the root of the wool, for the purposes of killing vermin, protecting from wet, and increasing the softness and the growth of wool.

[†] There is a waste of manure dropped on the heather land, but no remedy for this is known that is consistent with the health and hardihood of the young stock.

[*] A piece of coarse cloth sewed on across the root of the tail, and about six inches down each hip on either side of the tail.

[*] Mr. Culley's description of the ram:—"His head should be fine and small, his nostrils wide and expanded, his eyes prominent and rather bold or daring, ears thin, his collar full from the breast and shoulders, but tapering gradually all the way to where the head and neck join, which should be very fine and graceful, being perfectly free from any coarse leather hanging down; the shoulders broad and full, which must, at the same time, join so easy to the collar forward and chine backward as to leave not the least hollow in either place; the mutton upon his arm or forethigh must come quite to the knee; his legs upright, with a clean, fine bone, being equally clear from superfluous skin and coarse hairy wool from the knee and hough downward; the breast broad and well formed, which will keep his forelegs at a proper wideness; his girth, or chest, full and deep, and instead of a hollow behind the shoulders, that part, by some called the foreflank, should be quite full; the back and loins broad, flat, and straight, from the waist; the ribs must rise with a fine circular arch; his belly straight; the quarters long and full, with the mutton quite down to the hough, which should neither stand in nor out; his twist deep, wide, and full, which, with the broad breast, will keep his four legs open and upright; the whole body covered with a thin felt, and that with fine. bright, soft wool.—*Culley on Live Stock*, p. 103 and 104.

1st. His head ought not to be so very fine and small, but the nose should be full and aquiline from the tip (where the orifice is jet black) to the forehead. The brow should be inclined to be long and narrow, covered with short, white,* flat-growing, swirling hair. This cover ought to begin at the tip and extend over the whole head to the back of the crown, *close* behind the ear, where it is cut off at once by the circle of clean, soft, thick-set, and rather boardy wool, which terminates the fleece.

2d. The junction of the neck to the head must not be so very fine, nor the top of the shoulder too broad, but a rapid increase of strength from the top of the neck to the withers or junction of the shoulders; the top of the shoulder ought to be to the touch, as if the flesh on the chine overtopped the shoulder. This flesh or layer should be deep in quality and well covered with close-set wool, to cover the back broadly and effectually to the cleaving on the tail head, where the spine terminates in a broad tail, set on so low that the eye, in returning along the back, fancies there is a gradual rise from the tail to the neck, and a little swell on the loin.

3rd. The skin ought to be by no means thin, and the wool should be thickly planted on it, fine, soft, slightly inclined to be boardy, hanging together in regular staples from root to surface, elastic to the gripe, and covering the belly, and also the quarters as far as the mutton extends; at the termination of which it is cut off at once by the clean white hair that covers the legs.

The whole animal exhibiting greater strength, daring, and agility, than Mr. Culley's description brings before the mind.

III. In breeding tups, the general practice in the highlands, after selecting the tups thought to be the best, is to shed off from each hirsel of ewes a certain number of what are considered the "truest," and most perfectly formed; to put one tup to each lot so shed off, and set apart; to bid the shepherd tend this lot during the "riding" season separate from the rest of the flock, and from the produce to select tup lambs. It many years ago occurred to the writer, that in this method there were many defects: first, the separation intended was not effectually maintained—during the long moonlight nights of November and December the ewes got back to their accustomed haiff, and the tups mingled in the flock;—secondly, it caused a great additional disturbance to the flock, both at riding-time, and at the subsequent lambing, cutting, clipping, and speaning, to say nothing of the loss occasioned by the fox, eagle, cat, martin, raven, &c., all of which could be more cheaply fed in some other way than on tup lambs;—thirdly, in the course of his observation it occurred to him that a great portion of the ewes so set apart in the several hirsels formed no proper cross to the tup employed in that particular hirsel, but possessed a tendency to the same defects, and to the same perfections possibly with the tup; consequently, the defects on both sides were aggravated, and the very perfections, by increasing to excess, became defects;—and, lastly, as all breeders know that animals in very many cases, and especially where crossing has taken place, breed back, not to the immediate parents, but possibly to the great-great-grand-dam or sire; it must follow that, without a particular genealogy of tup and ewe, the object intended to be effected by any particular union will often turn out contrary to the wishes and expectations of the master. It was resolved to make a careful selection from the *élite* of particular families in his own flock; to purchase, at whatever expense, a few of the *élite* of certain ancient and well-bred flocks in the east border; to form them into one "selected hirsel" for the breeding of tups; to place them under his own immediate notice, to study the particular tendency of each family towards a deficiency or excess in each particular "point;" by judicious crosses betwixt the various families to produce stock more perfect than either dam or sire; and through this stock to infuse the best border blood into his flocks. The experiment wrought like a charm, and in a few years it lifted up the reporter's stock to a new position, both at the tup shows, and, what is more to the purpose, in the market where the stock and wool are annually sold.

The most choice lots of the county of Sutherland wool and sheep are generally sold in the "great annual market," held at Inverness, in the second week of July. At this market farmers assemble from all parts of the highlands; they are met by wool-staplers and sheep-buyers from the south of Scotland and from Yorkshire, and transactions to a very great amount take place without show of stock or sample, resting entirely on the character held in the market by the owner and his goods; and it is very seldom that one hears of a disappointment occurring to buyer or seller. The market is advertised to take place on Thursday, and the business certainly might be despatched in one day; but gentlemen who find themselves removed for a time from residences which, though comfortable and beautiful, are yet solitary, when congregated with the brethren of their profession, under agreeable circumstances, can seldom be induced to separate before the conclusion of the week. The weekly steamers betwixt Inverness and the Forth and Clyde, and the daily coaches betwixt the same city, Edinburgh, Aberdeen, and Glasgow, afford such facilities, that an English farmer, by embarking at Yarmouth or Sunderland on the east coast, or at Liverpool on the west, might attend this market at the expense of one fortnight's absence from his home.

Accounts.—The farm accounts are kept in the most simple form possible, by journal and leger, checked by double entry, vouched by the steward's reports and other documents, and abbreviated by five waste-books. The waste-books, consisting of a corn-book, cash-book, sheep-book, time bill-book, and jotter memorandum of statements with work-people, are carried on from week to week throughout the year, and at its termination the whole posted from these through the journal into the leger, which is shut by a balance account on the 1st January yearly. Farmer's books are not such agreeable companions now, as they were before the battle of Waterloo; nevertheless, a wise man will keep them correctly, and balance them punctually; recollecting that it is in the rout, not the fight, that the carnage takes place, and that that party is safest which shows the most correct front to the enemy. When a farmer's accounts betray confusion or sloth, his servants become indifferent to their duty; faithful servants quit, worse men take their places, and pillage begins. A rogue is shy to engage with a master who pays punctually and liberally, with a professed intention fearlessly to send the thief to justice. He waits for a place of a contrary description, and there he exercises his vocation.

Capital.—According to the best opinion which the reporter can form, the capital necessary to enable a farmer to carry on business in Sutherland may be stated at about four pounds to four pounds ten shillings per tillage acre, and twenty shillings for each sheep. A Scotch farmer, however, under a decent landlord, may venture farther than would be safe in other circumstances, in consequence of the landlord's right of hypothec, or preference established by Scotch law over the whole produce of the farm in security of his rent. This right of preference exists, tacitly, over each crop for the rent of that crop, and over all stock until three months after the last conventional term of payment. Suppose a tenant's rent payable, by equal portions, at Martinmas 1829, and Whitsuntide 1830, for crop and year 1829. At Martinmas, markets for corn, and, at Whitsuntide, markets for stock, are ruinously bad, in consequence of the glut caused at these seasons by the distress of the English farmer. The Scotch landlord, *knowing the perfect nature of his security*, scruples not, in such circumstances, to give his tenant whatever indulgence is necessary for the fair conversion of his produce into money. The difference of five, ten, fifteen, or twenty per cent. on the gross sales of his farm is an important one. Neither is such an exercise of the landlord's right attended by any bad consequences to society; diminishing, in the first place, the glut of markets at term time, it slackens at another season the gripe of the forestaller, and softens the monopoly which he would otherwise be possessed of; secondly, the dealer who buys farm produce, knowing perfectly the *public law of the land*, feels himself at liberty, before settling with the tenant, to say, "I presume your rent is paid?" The answer from the most necessitous man is, "Indeed, Sir, it is not, but here is a letter from my landlord or his agent, to say that you may pay me *50l.* on account, and for the balance he and I will grant a receipt in full." By a judicious exercise of this right of hypothec during the late difficult years, thousands of Scotch farmers have been saved from ruin; and men are now prosperously conducting the operations of a farm, who, in other circumstances, must have sunk under the pressure of those times which have overwhelmed so many of their brethren in the south.

Those who disapprove of the right of hypothec say, "Let the tenant find personal security to the landlord, if he cannot pay on term day; or let the landlord at once take an execution for his rent." But it is submitted that it would not be wise to recommend the substitution of an execution for the existence of the landlord's *tacit* right of hypothec; and with respect to security, where is he to find it, but among persons in circumstances similar to his own, to whom and with whose friends he must join in obligations of the same nature? In the extent and uncertainty of his engagements his head turns, he plunges into one or more of the fatal circles which from three months to three months revolve round the banker's counting house; and after increasing, to the best of his ability, the revenue derived from the "Excise," and thereby proving the "prosperity" of the country, down he comes.

Poor.—Another instance of Scotch feeling the reporter will notice, as it exists among a different class —the cotter or agricultural labourer—that is, with respect to poor rates. The English, the bravest and most generous people in the world, have established them; and yet it is not said that they are any where so established, unattended by a considerable degree of improvidence and dissipation among the parties in behalf of whom the provision is made.

On the demesnes of which these farms are a portion, with a more dense population than ever existed there at any former period of time,* there are no tithes, no poor rates, and—no drunkards, or beggars; positively few or none, besides the Irish, and the few squalid, ruined men from the south, who wander occasionally into the country. Nay, one meets with few peasants' sons, of this district, who have not, from such slender wages as this report speaks to, been taught to read, write, and, perhaps, to cast up an account. If a tolerable proficient, away he goes to "seek his fortune;" and the proverb says, "It is a bare moor, but he will find a cowe† upon it." Go where he may, his heart is with his father's house; and if he succeed in life, which he generally does to a certain extent, the "inmates" there are the better for it. The first feeling of a Scotch peasant is affection for his kindred; the second is his sense of *their mutual* but sole dependence, under Providence, on industry and thrift, to save them from the shame of beggary. The parent wrestles hard to push forward some part of his family by dint of education: the child, unknown to any,

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* Many very excellent Cheviot sheep have a grey colour on the nose, which gets darker near the tip. Others have a slight tinge of lemon colour on the face.

* Vide census, 1811, 1821, 1831.

† Cowe, a bit of heather.

> "deposits his sair won penny fee,
> To help his parents dear, should they in hardship be."

By reciprocal good offices, by joint industry, sobriety, and prudence, they get on wonderfully. In sickness they apply at the nearest house where any medicine or comfort is likely to be obtained for their friend in distress; they seem to expect it as a debt, or rather a loan, due from one Christian to another; but for the least drop of honey, jelly, wine, or even vinegar obtained, there is a visit from the patient, as soon as he can crawl abroad, with a thousand thanks, and a fowl, some eggs, or the like; which how to refuse or to pay for without offence it requires some tact to discover.

On entering the habitation of the cotter, his fare is found to be very simple. In summer, oatmeal porridge with milk for breakfast, potatoes for dinner, and bread and milk or something similar for supper. In winter, porridge, with perhaps a little bit of butter or some treacle, to breakfast; potatoes mashed, cut into slices, and done on the gridiron, and eaten with a very little fish, pork, or a bit of cheese to dinner, and gruel with a few potatoes or a bit of oaten or barley bread to supper. His abstinence is nearly complete from tea, coffee, sugar, candles, soap, ale, parliament whisky,* and every taxed commodity, except tobacco; and the nature of the climate has rendered it one of the necessaries of his life.

To a greater share of the comforts of life, the agricultural working man and his family may, doubtless, be admitted, and are so daily; but prudence and care and moral conduct continue, and it is hoped will long continue, to characterize this simple, industrious, and virtuous class of men. PATRICK SELLAR.

Morvich, 6th January, 1831.

HORTICULTURE.

AMERICAN GRAPES.

MR. SMITH: *Aurora, N. Y. Sept.* 28, 1831.

The Library of Entertaining Knowledge contains the following extract from *Humboldt:* "the species of *vitis* which are found wild in North America, and which gave the name of the land of the vine (Winenland) to the first part of the new continent, which was discovered by Europeans, are *very different* from our *vitis vinifera;*" and the author of that work, adds, "it is a popular error that the grape vine was common to both continents."

I cannot very highly appreciate that service, which in correcting *one* error leads on the mind to *another* of greater magnitude. As a botanist Baron *Humboldt* is right; but the English author who quotes him is wrong. Well may our astonished horticulturists enquire *what then are the delicious fruits that we call* GRAPES? *They make wine not inferior to Champaigne or Madeira, and they equal in flavour your best Chasselas. If they are not* GRAPES, *what are they?* This question, I think, would puzzle even the learned author of that excellent work.

He may console himself however, that some others, (his neighbours) are not much better informed. We are told in *Loudon's Encyclopædia of Plants* that "*Vitis vulpina*† the fox grape (so called from the foxy flavour of its berries) is *much cultivated in North America!* of which country it is a native. Many improved varieties have been raised by the American gardeners, and have been sent to Europe under the name of Bland, the Isabella, the Oswego Tokay, &c. &c. but *they are all tainted with the bad taste peculiar to the species;* and *can be in no estimation* when even an early July grape is to be procured."

The inferior taste of American horticulturists, and the inferior productions of their country, would be fully made out and established, *as the writer intended,* were it not for a few mistakes:—*the Bland grape has no particle of musk or "foxy" taste, in its composition;* and we have therefore to infer that he had never seen or tasted this fruit.

The old maxim that *one* man's taste is as good as *another's,* has promoted good humour, and ought not to be forgotten in such discussions. Now I have presented *the yellow Chasselas* along with *the Isabella,* and *the Alexander's* to different persons, and a majority have preferred the *two latter* kinds. My taste is a little different; but I have not been constituted an umpire in the case, and have no more authority to decide this point against them, than Professor *Lindley's* assistant.

But this writer says "besides the *V. vinifera,* the *V. labrusca* and *V. laciniosa* are all cultivated; and *both* are now so *intermingled* with the *first species* by hybrid products, that *for all practical purposes they may be considered as only varieties.*" It is to be remembered that *his* V. labrusca is *not* the fox grape, but still an American species; and so is the V. laciniosa according to Marshall. He would have greatly obliged us, therefore, by pointing out some of the finest kinds; and it is most probable had he closely examined the matter, that he would have found the Bland† grape, which he has so incautiously denounced, to be one of those "hybrid products."

But it is certain that besides the Bland, there are other American grapes, highly esteemed by "American gardeners" which are not more "foxy" than the *Vitis vinifera.* On turning to *Prince's Short Treatise on Horticulture,* I find the following testimony: "the Alexander's has a little of the fox grape flavor; but *the Spring Mill Constantia has none of it; it is sweet without any musky flavor.*" Page 53. "The Elsingburg—is *free from pulp or musky taste.*" p. 55. "The Columbia—is about the size of a small fox grape, but *has not that peculiar scent which the fox grape possesses.*" p. 56. The *Vitis riparia,* an acid but very rich grape, and all the varieties of *Vitis estivalis* are also free from the fox grape "taint."

The following extracts relate to American Wine, made from American Grapes:

"Captain Wm. Burlingham—has cultivated four acres (of the Scuppernong vine) for 18 years, and thinks the wine *superior to the best Madeira or Champaigne.*" Letter from B. Blodget, Esq. to Dr. S. L. Mitchill. N. Y. Farmer, vol. 2, p. 5.

"The best wine I ever made, was from the Schuylkill grape.—It was pronounced by Mr. Jefferson '*worthy of the best vineyards of France.*'" Letter from John Adlum. N. Y. Farmer, vol. 2, p. 95.

"A cask of 130 gallons made by me—from the Alexander grape—has been pronounced by connoisseurs in Philadelphia to be *very similar in its character to a good Madeira,* excepting that it was rather more mild." E. H. Bonsall's letter to W. R. Prince.

"The important fact is ascertained beyond dispute that *we can make wine in this country* (*from native grapes*—) *equal to the best qualities of foreign*" (wines.) Do. see New York Farmer, vol. 4, p. 88.

In reference to Table Grapes I select the following testimony:

"There is a variety of one of the *native species* cultivated under the name of Bland's grape, an hybrid?—*no way in my opinion inferior to some of the best European grapes.*" Nuttall's Genera, vol. 1, p. 143.

"Having tried the foreign vines, I prefer the *native* as more hardy—and they give me more fruit, quite good enough for me. I have one kind, a large bloom or flesh color, *decidedly superior in my opinion to any other I ever saw.* Foreigners from France, Italy and Spain, call it the 'Bloom Muscade Raisin' grape, but they do not know it is *a native of America.* It makes the best of raisins." Letter from Dr. H. G. Spafford. N. Y. Farmer, vol. 4. p. 29. A.

☞ The scientific *names* of the American species of *Vitis,* have been *bandied about* in a remarkable manner.

To begin with *V. vulpina*—Elliott has given reasons for supposing that this name was applied by *Linnæus* to a southern species now called *V. rotundifolia* (Scuppernong?) *Bartram* and *Marshall* called the (musky) fox grape *V. vulpina. Pursh* placed *V. vulpina* as a synonym of the summer grape *V. æstivalis,* so common in dry, oak and hickory lands; but *V. vulpina* by most of our botanists of the present day, is applied to the racoon grape, *V. cordifolia* of *Michaux.*

V. labrusca is now given to the (musky) fox grape, which *Eaton* calls "plum grape."

Marshall called the racoon grape, *V. labrusca;* and *Walter* marked the summer grape *V. labrusca.*

V. labruscoides was given by *Muhlenberg* to the Alexander's grape. Eaton now applies it to the fox grape, &c.

[The writer of the above will accept our thanks for his excellent article, and we solicit a continuance of his correspondence, feeling well assured that a portion of our columns cannot be better occupied than with the productions of such a pen. The article he speaks of in a private note, which was received last spring, remains for the ultimate decision of the committee in January next. We regretted the necessity that called for this delay, and the more so as it postponed the pleasure we shall derive from the appearance of that article in our columns. Will the author favour us with his address that we may be enabled, as a small mark of the high estimation in which we hold his writings, to send him our journal?

ON THE CULTURE OF THE GRAPE.

MR. SMITH: *Columbia, S. C. Sept.* 24, 1831.

Dear Sir,—I rejoice much to see the increasing taste for the cultivation of fruit trees, and particularly of the vine generally through this country, and particularly in Baltimore and its vicinity. Any thing therefore that will tend to elucidate the particulars of the culture of the vine, and extend the knowledge of its habits, must be useful, in some degree, and in this view it may not be useless that I give you an account of the disastrous consequences of the last most unfavorable season for this delightful fruit. With us all this summer has been an almost uninterrupted series of rains; such, I believe, as was never witnessed by our oldest inhabitants. The temperature has also been, with the exception of very few days, much below our usual standard. The quantity of grapes on our vines was uncommonly great; but these continued rains produced a considerable rot in the early part of Summer; and this never entirely stopped, as it usually does, after a short period of time. The rains continuing, the effect on the grapes as they approached maturity, was of swelling the berries; many of which burst on the slightest touch by insects, birds, or, I believe, without being touched at all, and this attracting the myriads, the consequent devastation is almost incredible. Indeed, a lady in light colored clothes could not safely walk under our vine arbours without an umbrella, for it actually rained wine. This is not, however, the whole of the mischief done; but this juice of the grape which was thus *unlawfully running away*, compelled me to gather my crop for wine before the grapes were as fully ripe as it was desirable they should be, and this juice being chiefly made up of our superabundant rains, and not having had a sufficiency of dry heat, was exceedingly deficient in saccharine matter, as for example: last year the juice of my Lenoir grapes weighed, by Beaume's areometer full 13°; and this year it weighed only between 7 and 8°, and it required three quarters of a pound of sugar per gallon of must or juice to bring it to the same degree, viz: 13° that it weighed the year before without a single grain of it. The other kinds fared a similar fate, and it was the opinion of several of my friends, as well as my own, that in my garden alone I most have lost during the two weeks preceding the gathering of the grapes, near 100 gallons of wine; yet, notwithstanding this enormous deduction in the crop, I made from that alone about 260 gallons. Aided by an intelligent friend, we measured the ground planted by these vines, and it was found to be a little less than one sixth part of an acre; which makes it at the rate of 1500 gallons per acre of wine, *such as it is*. I say such as it is, for it cannot be supposed that wine made under such unfavorable circumstances, can possibly be of a superior quality, although I endeavored, as much as was in my power, to supply the deficiency of saccharine matter in the fruit; yet, having examined it particularly lately, I am induced to hope I have succeeded tolerably well.

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* Within these few years, illicit distillation has almost entirely disappeared, and the character of those that dealt in it has proportionally improved.

† On another page of this Encyclopædia, Professor *Lindley* calls this grape *Vitis labrusca,* with which nomenclature most modern botanists agree; but such discrepances in the same work are not commendable.

† *Muhlenberg* considered this grape as a distinct species, but *Bartram* and *Nuttall* supposed it a hybrid. Pursh marked it as a variety of the (musky) fox grape in which he has been followed by *Torrey* and *Lindley,* but I cannot discover their reasons. It may be doubted whether the fox grape will ever run so far into variety as to lose all its musky flavor, and all the down of its leaves; for the absence or presence of *the latter,* forms a part of the specific distinctions of this genus,—yet the Bland grape is entirely exempt from both of these properties.

I tried this season the operation of ringing, otherwise called annular operation, on many vines, with a view of testing more fully its effects than I had yet done, and I found that, although it increased considerably the size of the grapes, and of vines themselves above the operation, it had no effect in preventing the rot. Valuable effects, however, are produced by this ringing, which is, as you know, the taking off a ring of the bark clean to the wood immediately before the flowering of the vine or other fruit tree. One of them is, that noticed above, of increasing the size of the fruit, and forwarding by eight or ten days, the period of its maturity, and if it be done before the blooming, (for it may also be done with advantage afterwards, even when the grapes have acquired near half their size) it has the valuable effect of preventing, in a very great degree, the *coulure*, (we want an English word to express this) which is the failure of the setting of the flower to fruit, to which several kinds of grapes are very subject. Another advantage obtained by it is, that if it be desirable to fill up a vacant space in a bower or espalier, &c. it may conveniently be done by performing the operation on a branch trained in that direction. Its effect is to encrease considerably the size in length and thickness of the part above the ring, by which means the vacancy is easily filled up. This operation also being done on a vine which it is desirable to multiply, affords great advantages; for, if a flower pot. a box, or any other suitable thing is so placed that the ringed part of the vine be inside, and it is filled with good soil, and gently and frequently watered when it may be needed, it will take root so well as to form an excellent vine the very next season. It has only to be cut off below the box or pot, close to the hole through which it was inserted, and carefully planted, without disturbing the roots, in a suitable place. Speaking of planting vines, it may as well be noticed here that a plenty of room ought to be allowed for the spreading of the roots; for these extend much farther than most people are aware of, and I presume this is in proportion to the extension of the vine itself above ground. As a remarkable instance of this, I shall copy here a note which I received a few days since from a very intelligent friend of mine. It is as follows:

"I have long thought that grape vine roots extend farther than is generally supposed, and I now have the proof. My gardener cut in two with the grubbing hoe a grape root, which I traced to my artichoke bed, forty-three feet from the stem of the vine. There I lost it among my artichoke roots, which I would not disturb. At the point where I ceased to trace it, it was still as large as my little finger. The fragment of the root I send you (about 15 feet) will show the size. I have no doubt it extends from 6 to 10 feet further. The vine to which this root belongs, is about 8 years old and thrifty. It is our Columbia Madeira. This root ran at the depth of 7¼ inches, through the bed, without dip. It ran some distance down a walk and crossed. Here it was 8½ inches below the surface. Where I ceased to trace it in my artichoke bed, at the distance of 43 feet from the vine, the dip had become very considerable, a foot at least. This I attributed to the resistance it met from a large root. You know we agreed this Summer that the vine has a host of enemies above ground. I now have to report two foes below the surface quite as fatal as any above. About fourteen years ago, I transplanted into my garden a vine of the small white grape; I believe it is the sweet water. It bore the second, third, and fourth years, but the two last the fruit wilted, and did not ripen; from that time it ceased to bear, and has dwindled away, the leaves becoming very small, the annual shoots few and wiry, and the whole vine having the appearance of decay. I had it dug up yesterday to ascertain the cause, and found the large roots had been eaten out, and only a shell left. After some search, I at length found the enemy, a large white worm, an inch and half long, with a reddish brown head, armed with a pair of hard forceps, capable of perforating wood, and working horizontally. He is as thick nearly as the common grub, but differs from him in several respects; he is nearly half an inch longer, the first half of the body has rugæ, and is larger than the latter half; he walks upon his belly, while the grub, you know, on a hard surface, walks on his back, and not on his feet. I found him imbedded in a large root, at the termination of his excavations, and with difficulty cut him out alive. I put the marauder on my mantel-piece, loosely wrapped in paper, intending to send him to you, but in my absence for some hours, he perforated his paper prison and escaped. I have not been able to find him.

"Against this enemy we may not be able to guard, but we may guard against another I am about to mention. I had to dig up a four year's old vine that stood in a new walk I wished to open. This vine had never been thrifty, nor borne fruit that I remember. I found the root in a decayed condition, and a nest in it of hundreds of white ants. They seemed to have hollowed out a large space between the bark and the wood of the root. Possibly they may have found the root decayed, (I believe this the correct view of it) and on that account availed themselves of it to construct a nest. Our gardens are filled with myriads of these insects of every description, which boiling water would readily destroy. With respect, &c."

The apparent importance to the vine of the long horizontal root mentioned here, seems to render doubtful the propriety of suppressing all the upper roots as it is recommended in almost all the books on the subject of the culture of the vine; but although I am not yet very fully satisfied on this subject, I incline very strongly on its propriety; for if the rotting of the grapes is caused chiefly by the alternations of dry and wet, it cannot be doubted that roots near the surface of the soil must yield at times a much greater supply of moisture to the vine than at others, and thus help in doing the mischief; whereas, if these roots are every year cut off and the lower roots can find an easy progress in a loose and good soil at a greater depth, they cannot certainly be as exposed to the effect of drought, or suddenly to an undue abundance of moisture.

If you think, sir, that these desultory observations can be of any service, you may insert them in your most valuable agricultural journal.

I am, very respectfully, sir,
Your obedient servant,
N. Herbemont.

On Packing Acorns for Transportation.

Mr. Smith:

I take the liberty of proposing to you the publication of the following addition to a piece signed "Jesse Buel," in the American Farmer of the present year, No. 26, page 208, the necessity of which that gentleman probably overlooked. It is, that in order to secure the growing of acorns sent abroad, they ought to be packed in sand, moss, or any other substance likely to keep them from drying, and this ought to be done very soon, say within two or three weeks, at farthest, after they have been gathered. Without this precaution, not ten in a thousand will vegetate. This is the case with many other kinds of seed, such as chestnuts, walnuts, and other oily nuts. For want of attention to this object the kind intentions of many persons are very frequently defeated.

Yours, with respect, N. H.

(From Loudon's Gardener's Magazine.)

THE MELON STRAWBERRY.

This is a seedling, raised at Aberdeen, and which has been declared by Dr. Dyce, of that city, to be the "finest variety in existence." "The size and shape of this fruit in a great measure, resemble the roseberry, but rather larger; the colour is very dark, the flavor exquisite, and the plant is an abundant bearer and forces well." The above description, together with two or three plants, were sent to Messrs. Malcolm and Gray, of the Kensington Nursery, in the beginning of May last, by Mr. Alexander Diack, Secretary to the Aberdeen Horticultural Society. We have tasted in Mr. Groom's garden, Walworth, what are there called Diack's No. 1. and No. 2, which are excellent strawberries, and great bearers.

(From Prince's Treatise on Horticulture.)

Osage Orange, *or Maclura aurantiaca.*

This tree is also called Bow Wood, and Yellow Wood. It has already attained to the height of about 20 feet in garden culture, but is said to far exceed that height in its native regions of Missouri and Arkansa. Several trees at the establishment of the author, are now from nine to ten inches in circumference. It is well calculated, by its fine foliage and curious fruit, to form one of our most interesting ornamental trees; the leaves are of good size, oval form, and placed alternately on all sides of the branches: they are of a fine glossy appearance, very numerous and closely set, and impart a great degree of beauty to the tree; added to which, their verdure is retained after that of most other trees is past; the flowers are not of much note, but the large fruit, of the size and form of the Orange, which decorates the tree during the autumnal months, render it particularly worthy of notice. The outer surface of the fruit is rough and warted. It was some years since supposed to be eatable, and that it would become an appendage to the dessert, but that idea is now ascertained to be incorrect. The bark on the young shoots is perfectly smooth, and of a light brown color, but on the old wood it becomes rough, and is of a yellowish hue; the branches are armed with thorns, standing singly, at every joint, and as they surround the stalk, of course point in every direction. It may be trimmed so as to form a clear body with a handsome head; or by leaving the numerous shoots, be allowed to form a large and dense shrub. I have already stated, that I considered it eligible for hedges, being of very quick growth, and soon forming an impassable barrier, by its numberless shoots armed with thorns; and, for this purpose, it has the advantage of being easily increased by layers, and tolerably so by scions—whereas the species of trees and shrubs commonly used for hedges, require to be reared by slow progress from seeds. The layers will take root in a few weeks, and may be planted in the line where the hedge is to be permanently formed, in the same manner as young Hawthorns, and they will form a sufficient enclosure much sooner than the latter, and in beauty of foliage far surpass them. The Osage Orange is diœcious, and to have perfect fruit, it is necessary to possess both the male and female varieties. The latter is very plenty, but the male is quite rare. A number of them are, however, in possession of the author, and they have already been sent by him to several European collections. The two varieties so nearly resemble each other, as not to be distinguished by general aspect. It has been thought probable that this tree may be found useful in the arts, the wood and roots being yellow, and said to afford a fine dye; and there seems much probability in this reasoning, when it is considered that the Dyers' Fustic, so extensively used, is found to be so nearly allied to the present species, that it has been transferred from the genus Morus, and ranged with this under the head of Maclura. It has been intimated, that they were in fact the same tree, but this supposition is very incorrect, as the plainest observer can easily perceive striking distinctions. The fustic is also very tender, and will not bear any degree of cold, whereas the Osage Orange is perfectly hardy, and bears the severest winters of this latitude.

Rhododendron Ponticum, *or Pontic Rose Bay.*

This has been more extensively cultivated than any other; its leaves are large and glossy, of an oval form, or pointed, according to the variety; the flowers are produced in clusters at the ends of the shoots, and, in the common species, are of a fine purple colour: they expand in July, and taken in connexion with the handsome foliage of this plant, render it one of the most ornamental and desirable shrubs. It flourishes in any good common soil, but it is said a situation somewhat sandy suits it best. There are about 20 varieties of this species, which have been obtained by long cultivation, and rearing from seeds; these are of various colours and shades, and are now in the author's establishment in a course of increase.

Strawberry Tree, *or Euonymus.*

Of this there are many species; the principal of which I will proceed to describe.

Euonymus Europæus, *or European Strawberry tree.*

This is also called the Spindle Tree, the Burning Bush, and the False Arbutus. Its principal beauty consists in its fruit, which is produced in great numbers; and, in the common variety, they are of a red colour, and are considered at a distance to resemble strawberries. These hang on the trees during the autumnal months, and part of the winter, and are greatly admired for their enlivening appearance during this dreary season. There are several varieties of this species, viz.—

Deep Red Berried.
Pale Red Berried.
White Berried.
Broad Leaved.
Variegated Leaved.

Euonymus Atropurpureus, *or Purple Flowered.*

This considerably resembles the foregoing, but it is of more vigorous growth, and has less of the quadrangular appearance in the shoots; the berries are large, generally deep red, and in great abundance, and the purple flowers easily distinguish it. There is a variety with pale red fruit.

Euonymus Americanus, *or Evergreen.*

This holds its foliage considerably during winter, whence its title. It is of lower growth than those before mentioned, seldom rising above six feet, and the shoots are more delicate. When loaded with its beautiful scarlet fruit, this shrub forms a great attraction, and it is this species which has more particularly received the appellation of Burning Bush. There is also a low trailing variety.

Oleaster, *or Eleagnus.*

Of this there are several species.

Eleagnus Angustifolius, *or Narrow Leaved.*

The foliage of this species is white, or silvery, and the young branches are also white, which give to it a peculiar appearance; the leaves are, to the touch, as soft as satin, and continue on the greater part of the winter; the flowers are produced in July, but make no figure: they are small, white, of a strong scent, and are succeeded by fruit resembling small olives—which have caused this shrub to be sometimes called the Bohemian Olive.

RURAL ECONOMY.

POTATOE CHEESE.

The following is the translation from the *Revue des Revues*, mentioned in the communication of Gen. Dearborn, to the Editor of the New England Farmer.

FABRICATION OF CHEESE FROM POTATOES.

In the Bulletin of the Societie D'Encouragement, for the month of September, 1829, is an article on the fabrication of cheese from potatoes, of which the following is an extract, from the correspondence of M. Fahrenburg.

There is made in Thuringe and in a part of Saxony, cheese from potatoes which is very much esteemed; this is the mode of preparing it.

After having selected the best kind of potatoes, they are boiled; when cooled, they are peeled and reduced to a pulp, either by a grater, or in a mortar. To five pounds of the puff, which should be equally fine and homogeneous, is added a pound of sour milk with a sufficient quantity of salt; the whole is well kneaded, then covered up and left to repose for three or four days, according to the season of the year: at the end of that time, the mixture is again kneaded and then put into small baskets, to divest it of the superfluous humidity. Afterward it is placed in the shade to dry and then it is packed in layers in large jars or casks, where it is left for fifteen days. The older this cheese grows the better it is

There are three kinds made: the first, which is the most common, is prepared in the proportions above named; the second, with four parts of potatoes and two of curd; the third, with two pound of potatoes and four pounds of milk.

The potatoe cheese has this advantage over common cheese, it never engenders maggots, and it keeps perfectly well for several years, provided it is placed in a dry situation and in close vessels.

I have repeated this experiment with the proportions of the second quality. This was the method pursued. The potatoes were boiled, peeled and crushed with the hands. If the fabrication was carried on extensively, the machine used for reducing the potatoes in distilleries, could be used. The milk was heated, and curdled with vinegar, as no rennet was at command. After this operation, the milk was mixed with the potatoes; the mass was salted, then it was passed through a hair sieve, to pulverize it thoroughly and make the mixture perfect; this mass, covered with salt, was left for ten or twelve days in an earthen pan; at this period it was distributed, for want of baskets, on sieves, where it drained and became moulded into regular forms. The sieves were lined with a linen cloth before the mixture was put into them. Fifteen days after this draining operation, which had been aided a little by pressure, the cheeses were placed, enveloped in their cloths, between osier hurdles and put into the cellar. At this time the caseous fermentation is well developed, and the cheeses are yet very soft, and there is formed on the surface a skin of mould. The cheese taste is very sensible, and not disagreeable, and I think this kind of cheese can be advantageously made by the farmers. I now intend to attempt drying the cheese in the shade. I shall publish the result of this experiment, which appears to me to be important to agricultural economy.

(From the Western Ploughboy.)

BOTS IN HORSES.

Mr. Sawyer.—In the fore part of May last, I had a valuable horse seized with the bots, and in a few moments was evidently in the greatest agony imaginable. My wife immediately referred me to the cure published in the second number, page sixteen of the Ploughboy. I immediately tried it, but was compelled to sweeten the milk with sugar. In a few moments after I drenched my horse with about three pints of it, he evidently was better and relieved of his distress; got up, shook himself, and whiskered after other horses.

At this time a *horse doctor* arrived, whom I had previously sent for, and like a bold Jacksonian, said he went the "whole hog" for the spirits of turpentine. I told him I thought the horse better, but left it for him to say, as I was no *horse* doctor. He insisted on giving the spirits of turpentine by drenching. My horse's head was then reined up, and a half pint of the spirits turpentine poured into his right nostril, (as he refused to swallow it when turned into his mouth) and the effect was distressing. I observed to the doctor, the turpentine would be most likely to go into his lungs while his head was in that position; but the reply was *no;* with a nod of wisdom, as if the gods directed him. But, alas! for my poor horse! The application was a fatal one. He was seized while in the hands of the *know-every thing*, and yet know-nothing doctor, with a distressing cough; it continued, and on the fourth or fifth day, his lungs were in a high state of inflammation, his breathing was laborious, his eyes were glassy, his thirst insupportable, his hoofs dry and crumbling, his mane began to fall off, thin stranguary ensued, dimness of sight, stiffness of the joints, serious blisters were on various parts of his body, deafness, suffusion of mucus in the bronchia or windpipe, total blindness and death. Thus ended the services of a most valuable horse, that fell a victim to the caprice of a braggadocio mountebank. Let the owners of property be careful, who they employ to doctor their horses, as well as themselves and families.

Since the death of my horse, I have conversed with a very intelligent man, who tells me he lost a very valuable horse by drenching with spirits of turpentine, in the same manner, and that he died with precisely the same symptoms. He is a man of undoubted veracity, by the name of Johnson, and lives in this county.

N. B. I have tried the milk and honey of late in a case of bots, and it produced immediate relief. I believe it to be an infallible remedy when followed with physic, it is a remedy that carries reason with it and no other should be made use of.

Yours, Daniel Roberts.

Sandy Bluffs, Morgan co. Ill.

GRAPES FOR TANNING LEATHER.

A French apothecary in the neighborhood of Narbonne has published a treatise extolling the husks of grapes which have been deprived of their alcohol by distillation, as an excellent substitute for bark in tanning leather. After having prepared the skins in the usual way, he places them in the pits and covers them with grape husks. From five and thirty to five and forty days are sufficient to complete the tanning. This method, according to the author of it, offers the following advantages: the operation is much more rapid, it is much more economical: the leather has an agreeable odor instead of that of tan; and it is twice as durable as leather tanned by bark.

[*Western Tiller.*

CORN PUDDING.

To one quart of grated corn, add, four eggs, well beaten, two table spoonsful of sugar, one and a half of salt, beat well together, butter your pans and bake in a hot oven, let it be about 1½ inches thick when done, eat with butter.—*Farmer's Reporter.*

THE FARMER.

BALTIMORE, FRIDAY, OCT. 21, 1831.

PRINCES' NURSERY AT FLUSHING, N. Y.—Having recently visited the Linnæan Botanic Garden and Nurseries of Wm. Prince & Sons, at Flushing, we deem it of sufficient public interest to give the result of our observations. This we must premise is wholly uninfluenced by partiality or by the slightest hint of its being desired by the proprietors, who will receive the first intimation of our intention from this article itself. This is proper too, on another account; notices of many of the Philadelphia establishments by a visiting committee of the Pennsylvania Horticultural Society, and of those in our own vicinity, as well as several others near New York and Boston, have within a short time appeared in our columns. But even in the absence of all these reasons, the real merits of the establishment itself, and its importance to the Horticultural interest of our country, would render this notice of it a matter of duty on our part. We spent six days in examining the grounds and houses, and whatever we may heretofore have thought of them, we are constrained to say that they exceeded all our anticipations by one hundred per cent. We gave them no careless glance or casual observation; but, with their catalogues in hand, we went to work industriously, examing every thing, tree, shrub and herb, fruit bearing and ornamental, indigenous and exotic, hardy and green-house plant; and the result was, that not only every thing in their catalogues is really in the establishment, but there are many hundreds of trees and plants not yet entered in their lists. There are, it is true, some few plants in the catalogues that cannot at this time be had, in consequence of all but the stock plants having been sold, and it being necessary to retain them for propagation; but these are very rare, and we think it difficult for an order of five hundred different species of plants to be made out that could not be filled within ten plants.

As all belonging to the establishment were closely engaged in supplying orders, and with the business of the establishment, we were allowed to range alone, and at will through the grounds. We availed of this privilege to its fullest extent, and managed to be present at the selection and packing of trees and plants in filling orders. We noticed one rule which was strictly observed, and which we resolved our readers should have the advantage of. That is, that the finest trees and plants are always selected to fill the order in hand; the effect of which is, that the first order received gets the best; the next, the next best, and so on to the end of the season. This offers an inducement for persons intending to order trees, &c. from that establishment, to send them early. In selecting trees, &c. one of the three proprietors always attends personally, and selects and marks them himself; so that there is nothing left to hazard or the mismanagement of persons not directly interested in the good name of the establishment. The packing of trees and plants is also always done under the eye of one of the proprietors or the clerk, (to the intelligence and fidelity of whom, we are also able to bear testimony,) and no matter to what distance they are to be sent, the rule is to put them up in such a manner that they will bear transportation to Europe.

We paid close attention to the system pursued in obtaining and marking the different varieties of fruit trees, that we might satisfy ourselves as to the degree of probability there might be of correctness as to varieties. In the first place, one of the proprietors always selects and takes off the buds or grafts, and inserts them with his own hand, or sees it done by a skilful assistant. Tallies are then attached to the trees, and duplicate marks made on stake-tallies driven into the ground. The variety is then entered in duplicate, and often triplicate nursery books, with numbers and names corresponding to the tallies. The whole grounds are laid off into squares, which have permanent names or marks, as square A, square B, &c. The rows in each square are numbered, and when there is more than one variety in a row, the trees of the row are numbered. So that to find a tree by this system, reference is made to the nursery book, and the answer is, for example, as follows: "In square H, third row, beginning with the tenth tree." So that there appears scarcely a probability of mistake.

The varieties of fruit trees are much more numerous than we had any idea of, notwithstanding we have been familiar with their catalogues for several years. The proprietors have the catalogues of all the nurseries in Europe of any note, and their arrangements are such that as soon as a new variety is obtained there, it is immediately added to their collection, without regard to cost. By this means all the new pears recently added to the French and English collections, as well as other fruit and ornamental trees and plants, are already under cultivation at this establishment, and many of them are already for sale, even before many of the European nurseries have got them.

The trees and plants are in fine health and vigor; and whenever a peach or other fruit tree is discovered to be diseased, it is immediately taken up and destroyed.

It is of course impossible to enter into detail as to the varieties of fruit and ornamental trees and plants in this immense collection. After examining numerous catalogues of European establishments, we feel no hesitation in saying, that it is superior to any of them. It must be recollected that in Europe the division of occupation causes attention to be paid to departments exclusively. One establishment is devoted mainly to fruit trees, another to herbaceous plants, another to ornamental trees, and another to green and hot house plants; but here all these are combined, and either branch would be considered a respectable establishment in itself even in Europe.

There are some ornamental trees and plants scarcely known among us that we think worthy of especial notice. The *Abele*, or silver leafed poplar, is a most beautiful tree, and would add much to the beauty of a lawn or walk. The ailanthus, or Japan tree of heaven, is another tree worthy of a place in all collections. The collection of evergreens is rich and full. There is, also, a very large collection of the true royal oak of England, which retains its rich foliage till almost every vestige of verdure has disappeared from other trees. There were few plants in flower at the season of our visit; the DAHLIAS, however, were in full perfection. The Miller's George the IV. the Goliah, the bright double yellow, the Purple Prince, and many others, exhibited a splendour beyond any thing we had conceived. We measured several flowers of the first named, and found them from six to seven inches in diameter. The colors are exceedingly brilliant, and the appearance of them beautiful beyond conception. The collection of Chrysanthemums we regretted to find not in bloom, as we had heard them spoken of as exceedingly beautiful and very numerous. We could of course judge of the number of varieties, and the appearance of the plants, but no further. The pœonies, both tree and herbaceous, are very numerous, and of the richest and rarest varieties. We made a small selection of ten varieties for the accommodation of our friends.

The green and hot house collection is equally rich. We did not suppose there were as many camellias in the country as we saw there—and all fine plants, and generally in-bud for flowering the approaching season. The Passiflora alata, (wing leaved passion flower,) which is a green house plant, was in full flower, and is one of the most splendid plants we ever saw. Indeed there is no conception of the beauty of this plant in flower, from any description that can be given of it. We took a sprig of it with several flowers, and had the good fortune to preserve it in perfection for several days alter our return. But it would be an endless task to particularize all the rare and beautiful plants that fell under our notice, and we must conclude by observing, that the establishment of the Messrs. Prince, is creditable to our country, as well as an honor to its enterprising and spirited proprietors.

This establishment, it is pretty well known, was commenced by the father of the present senior proprietor; the latter gentleman continued it with success and credit till his two sons became qualified to take an active part; and it is now principally managed by the sons, the venerable old gentleman taking the exclusive charge of the orangery, &c. and giving counsel and advice in the management of the concern. The elder son, Wm. R. Prince, one of the most active and intelligent young gentlemen we have been acquainted with, occupies his leisure moments, at seasons when his attention is not required in the nursery, in writing descriptions of fruit, ornamental trees and plants, and their modes of culture, &c. and has produced several valuable works, among which may be mentioned, the "Treatise on the Vine," which should be in every vine-dresser's hands, and the "Pomological Manual," the first volume of which has been just issued from the press, and from which we have already given several extracts.

IMPROVED SHORT HORN CATTLE.—We invite attention to the following advertisement of the Rev. Henry Berry of England, proposing to supply genuine Improved Short Horn Bulls to American farmers. From what we know of the character of the stock of this gentleman full reliance may be placed upon the purity of blood and value of any animal he may send to this country. We should suppose that editors in the interior would be serving the interests of their agricultural friends by giving the advertisement an insertion in their papers. Till more permanent arrangements shall be made, the Editor of the American Farmer will take pleasure in forwarding communications to Mr. Berry, and making any inquiries of him that may be desired by our subscribers.

To American Farmers and others interested in obtaining

PURE IMPROVED SHORT HORNED CATTLE.

The numerous complaints of disappointment and loss which have reached England, in consequence of the spurious race of animals which have been exported thence, under the description of "Improved Short Horns," and a knowledge of the fact that they are now to be found, in their original excellence, in but few hands, have induced the advertiser to turn his thoughts to the production of bulls of the genuine breed, and of undoubted excellence, for the American market. It is presumed, that, in England, where his stock is known, any assertion of its merit would be superfluous; but it may be necessary to inform the American farmer until proof of its excellence has been obtained by trial, that it is not considered to rank second to any stock in Great Britain, in respect of the valuable properties which distinguish the improved Short Horns.

Should the advertiser meet with commensurate encouragement, he proposes to rear annually a considerable number of Bulls, and will be ready at any time, either to exhibit them to agents employed for selection, or to answer enquiries proposed by letter, addressed to him as follows: "The Rev. Henry Berry, Pensham House, Pershore, Worcestershire, England."

For the convenience of gentlemen resorting to the port of Liverpool, Mr. J. F. Cannell, of 68, Old Hall street, in that town, has consented to forward applications for Bulls to the advertiser, without delay, and to state such particulars respecting the stock, as his personal knowledge enables him to furnish.

England, Aug. 15, 1831. HENRY BERRY.

☞ We are compelled to defer till our next, the letter of Mr. Du Ponceau, which appeared in the last Baltimore Times, with remarks by the Editor.

FOREIGN MARKETS.

Liverpool, *Sept*. 7.

"The sales in cotton for the past week, we estimate at 25,000 bags. From so extensive a business, it was fair to presume on some improvement in prices, but such was not the case—the demand being very freely met. The public sale of Sea Islands was not very well attended; prices however were not lower, especially for the common and fair qualities, worth 10d a 10¾. So far this week the demand has been limited, but without alteration of prices.

Uplands we quote at 4 5-8 a 6 5-8; Alabamas 4 5-8 a 6; Orleans 5 a 7½ per lb The import of the past week 40,136 bags. Orders have this morning been received at the custom house to collect the new duty of 5-8 of a penny per lb. on all cotton not entered prior to the 24th ult.

The transactions in free grain are very limited. At yesterday's market there was but a moderate business done in new wheat at á decline of 6d per 70 lbs. Free flour was dull of sale at a decline of 1s per bbl. In bonded wheat and flour no transactions have been reported—the former remains nominally the same, but the latter is offered at 1s per brl. decline. Bonded flour 21s a 23s per barrel; free 30 a 36s. Bonded wheat 5s 6d a 7s per 70 lbs."

Havre, *August* 31.

Corn and Flour.—Foreign wheat has remained dull, 2 cargoes soft Russia have been imported from St. Petersburg, and a sale of 1000 ho. of this description has been made at ₤16 per ho. of 76 ku. duty paid.

French wheat has been gradually declining and fetched last market day only 58f. to 65f. per 200 ku. according to quality.

We have received 320 brls. New York flour by Francois 1er, 2227 bbls. Richmond by Alexander were sold previous to arrival at 36f. duty paid (1400 bbls. we notice in our last review) 3500 bbls. are arrived from the same port by William Smith, 1000 of which were also disposed of previous to arrival at 36f.

Stock this day in first hands—21100 ho. foreign wheat; 2820 brls. flour; besides 4000 French wheat. Same period last year—22000 ho. foreign wheat; 7000 ho. rye.

Cottons.—The heavy supplies amounting to 13650 bales received from the U. States, within the last ten days, have occasioned a further decline of at least one centime on the middlings to inferior qualities of the short staple cottons of that growth. In Brazil, and other kinds we have no change to notice. The sales during the same period, consist of 4917 bales as follows: 1236 bales Louisiana at 86½ to 98; 2825 bales Uplands, Mobile, Alabama and Tennessee at 76 to 95; 400 bales Pernambuco at 104 to 107; and 486 bales Bahia at 89 to 97; all these prices duty paid.

Prices Current in New York, Oct. 15.

Beeswax, yellow 18 a 21. *Cotton*. New Orleans .10 a .12; Upland, .7½ a .10; Alabama, .8 a 11½. *Cotton Bagging*, Hemp, yd. 14½ a 17; Flax 13 a 14½; *Flax*, American, 7 a 8.——*Flaxseed*, 7 bush. clean .—— a .—— *Flour*, N. York, bbl. —— a 5.62; Canal, 5.87 a 6 00; Balt. Hwd. st. 6.00 a 6.12; Rh'd. city mills 6.25 a ——— country, 5.62 a 5.75; Alexand'a, 5.75 a 5.87; Fredericksburg 5.75 a ——; Petersg. 5.75 a ——; Rye Flour, 4.00 a 4.12; Indian Meal, per bbl. 3.87 a 4.00; per hhd. 17.25 a 17.50; *Grain*, Wheat, North, 1.12 a ——; Vir. 1.16 a 1.23; Rye, North, 80 a —; Corn, Yel. Nor. — a 68; Barley 1.06 a 1.15; Oats, Sth. and North, .36 a 43; Peas, white, dry, 7 bu. 5. Beans, 7 bu. 7.00 a 8.00; *Provisions*, Beef, mess —— a 7.75; prime —— a 5.25; cargo 3.50 a 4 00; Lard, 9 a .10¾; Pork, mess, bbl. 13.00 a 13.75; prime 10.00 a 11.00.

POMOLOGICAL MANUAL,

Just published, and for sale by the subscriber, the Pomological Manual, or Treatise on Fruits, containing descriptions of a great number of the most valuable varieties for the orchard and garden. By Wm. Robert Prince. Part 1—price $1. GIDEON B. SMITH.

VALUABLE FARM FOR SALE.

I wish to sell the farm, &c. on which I now reside; it is situated on the great national road leading from Cumberland in Maryland to Wheeling in Virginia, eight miles east of Wheeling, and eight miles west of West Alexandria; the town of Triadelphia is located on it which is now rapidly improving. The situation is very healthy, well watered with fine springs, soil first rate, containing Magnesia and Lime. Stone Coal, and the Oil Stone commonly called Turkey Stone, of superior quality in great abundance.

On it there is a tavern stand, highly improved orchard, meadows, pleasure gardens, &c. There is also a good saw mill and a large merchant mill now building for four run of stones, to be propelled either by water or steam, or if necessary by both. It is a fine wheat country, and a mill of this kind will be a most valuable property. The mill fronts on the main street in the town. The tract contains about 220 acres, about 80 of which is cleared and in cultivation.

JOSIAS THOMPSON.

FRUIT, ORNAMENTAL TREES, SHRUBS, AND PLANTS.

SINCLAIR & MOORE,

Inform their friends and the public generally, that their stock on hand this season is large, of thrifty well grown trees, except those marked on the catalogue. The fruit in this establishment are all carefully grafted or inoculated mostly from bearing trees, of the choicest collection of American and European fruits.

This nursery will afford purchasers in our own state the important advantage of planting their trees on the first, second, or third day after they are taken out of the ground, (provided the holes for the trees are previously dug, which they always ought to be,) having quick transportation to most every part of the state.

Printed catalogues for this season describing the names of plants, time of ripening, and price, as also directions for planting, to be had gratis at their Plough and Seed Store, Pratt street wharf, Baltimore, or at their Nursery, three and a half miles east of the city, between the Philadelphia and Bellair roads; the best and nearest way to go to it is by going out the latter road two miles, to a pointer of further direction. The senior partner resides on the premises, and constantly superintends the same, and would be pleased to see persons disposed to encourage, or view their extensive collection, where they can see and choose for themselves.

For the information of those who are not in possession of a catalogue, they will mention some of the principal articles ready for sale, to wit:—

Apple, Pear, Peach, Plum, Cherry, Apricot, Nectarine, Fig. Gooseberry, Currant, Raspberry, Strawberry, Quince of sorts—Grape Plants, fine size, many choice kinds, Thorn and Honey Locust for hedges.

ORNAMENTAL TREES.

English Elm of middling and extra large size.

Italian White Mulberry, of do. and large do.

Horse and Spanish Chestnut.

Linden and Sugar Maple Trees, Paper Mulberry, Abeal or Silver leaved Poplar, Yellow and Honey Locust, Chinese Aleanthus, or tree of Heaven, English Walnut, Mountain Ash, Buttonwood, Black Walnut, &c. &c. Balm of Gilead, or Silver Fir, White or Waymoth Pine, Dwarf Box, Cutting and Rooted Plants, Black Double Spruce, Arborvitæ.

ORNAMENTAL SHRUBS.

Roses, both hardy and Chinese or ever blooming, a good assortment, Double Althea a superior collection, Linock five kinds, Snowberry Tree, Grounsel Trees, Roseacacia, Corchories, Scarlet Trumpet Creeper, White Flowering Virginbower, White Flowering Jasmine, Yellow Flowering do., Scarlet Trumpet, Monthly Honeysuckle, White Striped Monthly do. of exquisite fragrance, Multiflora Rose, Graville's Superb Multiflora, cuttings of Grape, Apple, Peach, &c.

Oct. 14.

DURHAM SHORT HORN CATTLE.

For sale several Cows and Heifers of the above breed, full blooded, and also others of different grades of blood. Apply to the Editor of the American Farmer.

BALTIMORE PRICES CURRENT.

Baltimore Market.--The receipts of Howard street flour having increased the prices have declined a little, as was expected. The wagon price yesterday was $5.50 but it was confidently expected to decline still further in the course of the day. There is very little change in grain generally, and as we have heard of sales of wheat within the range of our quotations we have not altered them. In grass seeds there is some change, as the season of demand has commenced and the supplies quite limited.

Tobacco.--Seconds, as in quality, 3.00 a 5.00; do. ground leaf, 5.00 a 9.00.—-Crop, common, 3.00 a 5.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 10.00; yellow and red, 8.00 a 14.00; yellow, 14.00 a 16.00.—Fine yellow, 16.00 a 20.00.—Virginia, 4.00 a 5.00.—Rappahannock, 3.00 a 4.00——Kentucky, 3.50 a 8.00. The inspections of the week comprise 617 hhds. Md.; 67 hhds Ohio—total 684 hhds.

Flour—best white wheat family, $6.75 *a* 7.25; super Howard-st. fresh $5 50 *a* 5.62½; city mills, fresh 5.12½ *a* 5.37½; Susq.— *a* —; **Corn Meal** bbl. 3.50; **Grain**, Md red wheat, 1.00 *a* 1.10; white do. 1.15 *a* 1.25, Susq. — *a* —Corn, white, 53 *a* 55--yellow 53 *a* 55—Rye, 70 *a* —. Oats, .33 *a* 35. Beans, 75 *a* 80--Peas, 65 *a* 70--Cloverseed 5.25 *a* 5.75--Timothy.—— *a* 2.50—Orchard Grass 1.50 *a* 2.00--Tall Meadow Oat Grass 2.00 *a* 2.50-Herd's, 75 *a* 1.00--Lucerne — *a* 37½ lb.—Barley.—Flaxseed 1.25 *a* ——Cotton. Va. 8 *a* 9———Louisiana 9 *a* 12 —-Alab. 9 *a*. 11——Tenn.. 8½ *a*. 9½; N. Car. 8½ *a*. 9½—— Upland 8 *a* 10-Whiskey, hhds. 1st p. 33 *a* ——; in bbls. — *a* 35———Wool, *Washed*, Prime or Saxony Fleece 58 *a* 67; American Full Blood, 50 *a* 58; three quarters do. 44 *a* 50; half do. 38 *a* 44; quarter and common do. 35 *a* 38. *Unwashed*, Prime or Saxony Fleece, 33 *a* 37; American Full Blood, 30 *a* 33; three quarters do. 28 *a* 30; half do. 25 *a* 28; quarter and common, 22 *a* 25—— Hemp Russia ton, $255 *a* —; Country, dew-rotted. 5½ *a* 7c. lb. water-rotted, 7 *a* 9c.—Feathers, 36 *a* 37; Plaster Paris, per ton, 4.37½ *a* —, ground, 1.37½ *a* — bbl. Iron, gray pig for foundries per ton 33.00 *a* ——; high pig for forges, per ton, 28.00 *a* 30.00; bar Sus. per ton, 72.50 a 80.00.—Prime Beef on the hoof, 4 50 *a* 5.00—Oak wood, 3.00 *a* 3.25--Hickory, 4.25 *a* 4.50—Pine 2.00 *a* 2.25.

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TERMS.

1. Price five dollars per annum, due at the middle of each year of subscription.
2. Subscriptions are in all cases charged *by the year*, and never for a shorter term.
3. When once sent to a subscriber, the paper will not be discontinued without his special order; and then not till the end of the year of his subscription that shall be current at the time of receiving such order; except at the discretion of the publisher.
4. The risk of mail in the transportation of both the paper, and of bank notes sent in payment for it, is assumed by the publisher.
5. Advertisements connected with any of the subjects of the American Farmer, inserted *once*, (seldom more) at one dollar per square.
6. All letters concerning this paper must be directed to the publisher. They must be free of postage, except communications intended for publication, and letters containing money.

☞ All Postmasters are requested to act as agents for the Farmer they are authorised to retain $1 for each new subscriber, and 10 per cent. on *all other* collections.

Printed by John D. Toy, corner of St. Paul and Market streets.

AGRICULTURE.

(From the Library of Useful Knowledge.)

Description of a Farm in the Western Extremity of Eastern Ross, Ross-Shire.

PRESENTED BY MR. JOHN BAIGRIE.

This farm, consisting of about four hundred imperial acres, was, prior to 1825, occupied by numerous small tenants, who farmed the land on the old system which prevailed in the Highlands of Scotland about fifty or sixty years ago—viz., the continued occupation of the ground by some description of corn crop, with exception of the small portion allotted for potatoes.

Their rotation—if rotation it may be called—consisted of oats, chiefly of the dun or black variety, which were continued to be sown in the same field in many instances for five or six years, or so long as the produce yielded two returns. When thought sufficiently exhausted, a portion was then manured in the spring for bear or bigg, and for potatoes—succeeded again by oats, which were continued until the effects of the dung were no longer visible, when the land was allowed "to rest"—*i. e.*, to remain unploughed for a period of years, producing nothing but weeds, with a small portion of indigenous grasses, no artificial seeds being ever sown.

The arable land of this farm was detached in small patches of from two to three acres, interspersed with considerable tracts of brush-wood and uncultivated ground, on which stones, which have for centuries been collected from the land, have been allowed to lie. In addition to this accumulation of smaller stones, large masses of blue granite lay amongst the arable ground, above and immediately below the surface, so as to offer considerable interruption to the plough. The land was besides in a very wet state from the many springs issuing out of it, and there being no drains or ditches to carry them off. So much was this felt in some seasons, that it was frequently the month of May before any corn was sown.

Such was the state of the farm in March, 1825, presenting serious obstacles to improvement, but at the same time possessing capabilities which could not be overlooked, and which promised ample remuneration for the expense proposed to be incurred.

As the farm which forms the subject of the following remarks was, at the period alluded to, almost in a state of nature, the writer, in the hope it may prove useful, proposes giving a detailed account of the various operations connected with its improvement.

The farm lies on the slope of a hill and facing the south, and consists of two varieties of soil. 1st—A clay loam of from twelve inches to two feet deep, chiefly upon an open gravelly subsoil. 2d—Gravel mixed with a large portion of black mould from six to fifteen inches deep, also on a previous subsoil.

Possession of the arable land having been obtained in the spring of 1825, in consequence of the right to the sowing of the crop of that year by the former tenants having been purchased from them, as well as the manure they had made from the previous crop, operations were commenced on the farm in the month of March. The first object was to lay off the arable land, as well as what was intended to be trenched, into fields of a regular shape, varying in size from twelve to twenty-five acres, according to circumstances, when such of them as could not be taken in hand in one season were sown with oats so far as the arable land extended. One field was selected for turnips and another for fallow; but from the scarcity of manure, in the first season, the sowing of both wheat and turnips was necessarily confined to a small scale.

Draining.—As draining was evidently the first necessary operation, a number of labourers were employed for that purpose, who executed the work by the job or piece. The drains were cut from three to four and a half feet deep, according to the nature of the substratum; two and a half feet wide at the top, and sixteen inches at bottom—the width at the top varying in proportion to the depth. Stones were then put in to the height of thirty inches, an opening of six inches square being left and built in the bottom to prevent the sides of the drain from falling in, and thereby impeding the running of the water. Above the stones a covering of dried weeds, gathered from the land, was laid, to prevent the mould from mixing with the stones; after which the drain was filled up, taking care to throw in the subsoil first. The expense of opening and closing was two-pence per ell of thirty-seven inches, and a halfpenny per ell for carting the stones, making the whole expense of the drains three-pence per lineal ell. This sum appears a low price for the work, but an expert labourer, although he should require to use the mattock to gain twelve inches of the depth, will at that price, earn from two shillings to half-a-crown per day.

Blasting Stones—While the draining was going on, men were employed to blast the large stones, some of which lay on the surface, while others showed only a small portion above it, and many were not discovered until the field had got the first ploughing. These stones, the greater number of which would weigh several tons, were blasted with gunpowder to a size which would enable two men to lift the pieces into a cart. Such of the stones as were below the ground, or had a part only buried, the contractor for the blasting was bound to clear around them, *i. e.*, expose the whole of the stone to view, for the reason that, when the stone exploded, it might have room to fly asunder. When this operation is neglected, much labour and expense are lost. The expense of boring, blasting, and clearing the stones, including gunpowder, was fifteen pence per foot of bore, but latterly, by competition, was reduced to a shilling per foot. Many stones required thirty feet of bore to reduce them to a size fit for building stone fences, to which purpose they were to be applied.

Trenching.—As the two fields intended for turnips and fallow contained several acres of uncultivated ground, chiefly covered with hazel, alder, and birch wood, these were trenched by the spade to the depth of sixteen inches, turning up all the stones except those requiring to be blasted. The draining and stone fences going on at the same time, these stones were immediately carted off, the large to the fences, and smaller ones to the drains. The expense of trenching varied considerably, according to the hardness of the soil, quantity of stones in it, and thickness of the brush-wood: in general, where all these prevailed, the expense was fourteen pounds per acre; when not covered with brush-wood, eleven pounds per acre.

Fences.—On one side of a field in which drains were cut, a ditch was usually formed, both as a fence and as a conductor of the water from the drains, in one side of which a hedge was planted, formed of a single row of whitethorn, paled on that side to protect the hedge until it should be able to protect itself. The dimensions of the ditches are, seven feet wide at the top, three and a half feet deep, and eighteen inches wide at the bottom. The expense, including the setting of the thorns, was six pence halfpenny per ell.

It has been found from experience that where there is a considerable fall in the ground, as on the farm described, the ditches which follow the slope of the hill should have been causewayed in the bottom, to prevent the injury done to them by the winter floods. This might have been done at a comparatively trifling expense before the small stones in the adjoining fields had been otherwise disposed of.

Where ditches were not necessary for the purpose of carrying off water, dry stone dykes or walls were built, both as being the preferable fence where cattle or sheep are pastured, and for the purpose of using the stones which were procured from the trenching and blasting. These dykes are three feet at the base, and carried to the height of four and a half feet of built work, tapering at the top to a breadth of ten inches, and topped above all with a Galloway coping, or stones placed on edge, of about ten inches high, making the whole height five feet four inches. The expense per lineal ell, including the driving of the stones, which the contractor for the dykes generally performs, ran from ten pence halfpenny to a shilling. The stones, however, were near at hand, which enabled the work to be so cheaply executed, and grass was found for the contractor's horses on the unimproved ground. The price for building is six-pence per ell, and the difference was allowed for the carriage of the materials.

Preparation for Turnips.—The field already alluded to, which was intended for turnips, being sufficiently drained, and the stones and brush-wood cleared off from the arable and trenched land, so many ploughings and harrowings were given as were necessary to clean the field from quickens or root weeds, which were, after each harrowing, carefully hand-picked. The first three ploughings were not made deep, the more effectually to bring up the weeds; but after the cleaning process was ended, the land got a very deep furrow.

Liming.—The land of the farm described being generally of a rich and deep quality, but containing no calcareous matter, it was considered that the application of lime would be attended with beneficial effects, and the result has exceeded the most sanguine expectations. It being well known that lime acts more powerfully on new soil than on land which has been long in cultivation, it was desirable that some fresh mould should be taken up to mix with the old soil before the lime should be applied. For this reason a deep furrow, as already mentioned, was given to the land. Some persons for this purpose use four horses, but as those on this farm are very powerful, and the land not being of a cohesive nature, two were found competent to the task. The lime, which was all imported from Sunderland, was landed about four miles distant from the farm, and when carted to the field was laid down in a long heap or mound contiguous to water, if possible on one side of the field on which it was to be applied. Two labourers are then employed to turn the lime, and a third waters it. When the whole has been gone over, it is allowed to lie for four or five days, when it is again turned, and if any part of the lime should be found to be still unslaked, more water is added.

This mode of slaking lime is considered preferable to the very common one of laying down the lime, as it is taken from the ship or kiln, in small heaps on the land, to be slaked by the atmosphere, or by the moisture of the soil, which, in dry seasons, is thrown upon it. By the former method every particle of the lime is reduced to a powder, which seldom happens the other way. The only advantage attending the latter mode is, that the quantity per acre can be more correctly applied; but any one who has had experience of the method recommended, knows from the appearance of the lime on the ground whether it be above or below the intended quantity. It is apprehended the more effectual slaking of the lime, and consequently the more equal distribution of it on the land, more than compensate for the additional labour of turning, watering, and carting it out. The quantity per acre applied to the field for turnips was one hundred and eighty bushels. When the whole lime has been spread on the land from the carts, the field gets one turn of the harrows, both for the purpose of mixing the lime with the soil, and to prevent any of it from being carried off by high winds.

Turnip Sowing.—At this stage the drilling for turnips commences, the drills being made twenty-seven inches apart, when the dung, which had been previously carted to the field and well fermented, is laid in the bottom of the drills, taking great care that it is regularly spread. This is of greater consequence to the success of the crop than is generally imagined.

In this instance no more than nine tons per acre could be allowed, as no other manure could be procured; and bone dust, now so generally and successfully used, was not known here at the time.

Sowing commences about the 8th of June, and continues till the end of the month, and is performed with a double drill machine in the usual way. The kinds of seed sown on this farm are field yellow, green topped white, and white globe, commencing with the yellow and finishing with the globe, Swedes were obliged to be discontinued, as the hares are so numerous as to destroy them before the season arrived when that valuable root is generally used. They could have been taken up and stored, but their quality would have been injured by long keeping. The yellow, which grow to a greater size than the Swedes, supply their place, as they stand the frost nearly as well, although their quality is deteriorated earlier in the spring, on account of their greater tendency to shoot.

The produce of the field first improved was very great; but as no portion of it was weighed, a correct estimate of the crop cannot be given—it considerably exceeded in bulk any crop the writer ever saw on old improved lands. This may be accounted for from the circumstance of a turnip crop being new to the soil, and from the application of lime to the fresh mould taken up.

Fallow for Wheat.—As the greater part of the dung purchased from the former occupants was applied to the turnip field, eight and a half acres only could be manured for wheat.

In the cleaning process the treatment was in every respect the same as in the turnip field. As the land is deeper and rather more compact, it got two hundred bushels per acre of lime, and about twelve tons of farm manure, both being applied immediately before the last or seed furrow.

Wheat Sowing.—The seed, which was procured from a chalk farm in Kent; was of the white sort, and was sown about the middle of September, at the rate of three and a half bushels per acre.

Produce.—The eight and a half acres of wheat yielded the very great return of forty bushels per acre; and it may be mentioned that the last crop of oats which the same land produced to the former tenant, was so bad as scarcely to pay the expense of cutting it down.

In the following year a small field of twelve acres, treated in every way like the former, with this important exception, that it got no manure, produced thirty-six bushels per acre.

These great returns may be ascribed principally to the operation of the lime on a deep and naturally rich soil, to which no calcareous manure had ever been previously applied. But as the peculiarly fine season of 1826 must have had considerable influence on the productiveness of the crops of this farm, which is situated considerably above the level of the sea, it must be mentioned, that in no subsequent year did the crops yield so much, although the bulk on the land was frequently greater.

In the manner already described, the improvement of the other fields was conducted untill the whole farm had been gone over, which was nearly effected in November, 1828, being little more than three years and a half since operations were commenced. It being an object with the proprietor to carry on the improvements with all possible despatch, a considerable number of labourers were consequently employed, which caused the improvements to be completed in little more than half the time that in ordinary cases would have been necessary.

It must be here stated, that, although from the scarcity of manure in the first season, the number of acres sown with turnips and wheat were necessarily very limited, other improvements, as trenching, ditching, inclosing, &c. were proceeding on a large scale.

It added in no small degree to the labour, that during the period alluded to, upwards of fifty thousand bushels of lime were carted a distance of four miles to the farm, on a road of considerable ascent, and without any assistance from hired carters.

Establishment.—The farm, during the continuance of the improvements, was worked by a bailiff, six ploughmen or carters, and three labourers, in constant pay, and six pairs of horses; but as a considerable portion of the farm is now kept in grass, and two fields in permanent pasture or meadow, the number of horses is reduced to four pairs and a supernumerary horse.

Expense of Improvement.—As it may be satisfactory to give an idea of the expense of the improvement of some of the fields, two are selected; the one the most expensive, the other the least so. But it must be observed, that in stating the items of expense, no price is put upon the labour of the farm horses in carting the lime, fallowing, &c. which would at least come to five pounds per acre.

Twenty-one acre field.

Blasting large stones, ...	£75	0	0
Trenching, 6½ acres, at 12*l.* 10*s.* per acre,	81	5	0
Drains, ...	3	0	0
Lime, 3024 bushels (144 bushels per acre,) at 6½*d.*	81	18	0
Inclosing with stone dyke, ...	52	7	0
Average, per acre, 13*l.* 19*s.* 6*d.* .	£293	10	0

Twelve acre field.

Blasting large stones, ...	£8	16	5
Trenching, ...	4	0	0
Drains, ...		15	6
Lime, 2304 bushels (192 bushels per acre,) at 6½*d.*	62	8	0
Ditch for intercepting hill water, . .	7	10	7
Average, per acre, 6*l.* 19*s.* 2*d.* . .	£83	10	6

This last field is that alluded to as having yielded thirty six bushels of wheat per acre after fallow without manure.

Rotation of Crops.—All the fields on the farm having been gone over in the manner already described, the previously exhausted state of the land, from a continued course of bad farming, rendered it necessary that, in the first round of cropping, it should be allowed to remain in grass for two or more years, for the purpose of recruiting its strength With that view, each field, as improved, was sown down with red and white clover and perenial rye-grass, in the proportion of eight pounds of red clover, four of white, and one and a half bushels of rye-grass per acre.

An easy rotation, or such as would least deteriorate the soil, was therefore fixed on, and is now followed. On that part of the farm, consisting of a deep clay loam, the course commences with—1. Fallow, a small portion of potatoes and spring sown tares. 2. Wheat sown down with grass seeds. 3. Clover. 4. Pasture. 5. Oats.

On the lighter division, the rotation is—1. Turnips. 2. Barley, with grass seeds. 3. Pasture. 4. Pasture. 5. Oats. It is probable that this may be the course of cropping which will continue to be pursued. A more profitable one could be adopted by extending the course, and introducing beans, succeeded by wheat into the rotation; but as the farm, as already mentioned is situated considerably above the level of the sea, and in the immediate neighbourhood of high hills, the bean crop, in most parts of Scotland a precarious one, would, in this situation, be doubly so; and the further extension of wheat would also be hazardous.

Farm Offices.—These are conveniently situated, being nearly in the centre of the farm, and are of the most approved construction, possessing ample shed room for cattle, granaries, &c. and have a water threshing machine of eight horses' power attached.

Roads,—Besides a county road, which bounds the farm nearly its whole length, there are cross roads, which intersect it at convenient distances.

Sheep Walk.—Connected with the arable farm described, there is a range of moor ground, interspersed with valleys of green pasture, on which fifteen hundred sheep are kept of the pure Cheviot or white-faced breed.—Surface draining being much wanted in the valleys, many thousand ells of drains were cut, which have had the effect of increasing the quantity and improving the quality of the pasture. The dimensions of the drains are twelve inches deep and twenty inches wide, and are executed at a farthing per ell. The sod that is cut out is carefully placed at the edge of the drain, with the grass side up, to preserve the green sward. The sheep walk, in consequence of its being joined to the arable farm, has the advantage of superior wintering for the hogs or lambs, on account of the green food and shelter afforded by the woods that are attached to the farm. As the wedder lambs are annually sold, no turnips are given to the ewe lambs, but in lieu of them they are allowed the range of the clover stubbles, which has equally the effect with turnips of checking braxy, a disease that often carries off a large portion of the flock where clover stubbles or turnips cannot be obtained, laxative food being the only preventive hitherto discovered. The sheep are managed by a head shepherd and a boy.

General Character of the District.—The district of Eastern Ross consists of soil of all the varieties of loam, from a rich deep clay loam to light sandy loam; and as the climate of the lower parts of the district is favourable for raising wheat, that grain is cultivated to a considerable extent, and the quality in general is fine. In a few instances the wheat from one farm has brought the highest price in Mark Lane

On the first-mentioned soil the system of cropping is as follows:—1. Fallow and a small portion of turnips. 2. Wheat sown down with grass. 3. Clover. 4. Oats. 5. Drilled beans, potatoes, and spring-sown tares. 6. Wheat.

On lighter loams the rotation is—1. Turnips eaten off with sheep. 2. Spring-sown wheat. 3. Clover. 4. Oats. 5. Beans, &c. 6. Wheat; and on the light sandy loams the mode of cropping is—1. Turnips eaten off with sheep. 2. Spring-sown wheat and barley. 3. Clover. 4. Pasture. 5. Oats.

Advantages of Eating off Turnips with Sheep.—The farmers of the second and last mentioned soils derive very considerable benefit from the neighbouring county of Sutherland. In that county sheep farming is carried on systematically, and on a very extensive scale; and it forms part of the system to winter on turnips the wedder hogs or lambs of that season, as well as the weaker part of the stock. As the turnips raised in the county are not adequate to feed the proportion of hogs from an aggregate stock of 156,000 Chevoit sheep, together with the cattle reared in the country, the farmers have recourse to this district and to Ross-shire generally, to make up the deficiency. The consequence is, that many hundred acres of turnips are annually taken by the Sutherland farmers in this county, the advantages of which to the district are obvious, as the land on which the turnips have been eaten by sheep is so enriched as to enable many farmers to grow wheat where otherwise it would not be attempted.

It is the general practice to draw off one half of the turnips, taking every alternate drill, to give to cattle in the straw yards. This is required both on account of the necessity of converting the straw into manure, and to prevent the land, where otherwise in good condition, from being over enriched by the sheep.

Another reason may also be stated. As it is only after turnips that wheat, on such soils, is raised, it is important to have the field cleared before the 10th of March—the latest period, in this district, at which wheat is sown in spring.

The raising of wheat on light sandy soils has thus become a practice where, not many years since, it was unknown; and, as that grain produces more straw than any other, and consequently more dung is obtained, a greater breadth of turnips is the natural result.

Size of Farms.—The size of the farms in the district is, of course, various, depending on the extent of capital of the tenants; in general they run from two to four hundred imperial acres. The best description of lands let as high as two pounds per acre, while the inferior sorts are as low as fifteen shillings.

Very few cattle are fatted for the butcher, as the small towns and villages afford a limited consumption; but a spirited farmer from the south of Scotland, who rents two extensive farms in the district, has for several years been in the habit of feeding a considerable number of sheep, which he drives, a distance of about two hundred miles, to the Edinburgh market.

This tedious land journey will soon, it is hoped, be rendered unnecessary, by the adoption of a mode of conveyance to be afterwards noticed.

No dairies are kept, as, on account of the great distance from large town, it is found more profitable to rear cattle on farms where a considerable portion is kept in pasture.

A considerable number of cattle are reared in the district, but as these are not sufficient for the consumption of the winter keep, the additional numbers are supplied from the Highlands of Sutherland and Ross-shire.

Almost all the farmers rear their own horses. At an earlier period, and before good stallions were introduced into the country, the local farmers' societies offered premiums for the best horses from Clydesdale and other southern districts of Scotland; but of late years, good stallions are annually sent north without any other encouragement than is afforded by the number of mares they obtain. A few are bred and kept in the country, but they are generally of inferior stamp.

On well-regulated farms, where the working stock are kept in full employment, it is usual that the ploughmen or carters do little other work than that in which their horses are engaged. All other work is performed by labourers, either by the day or by the job; the latter, in all cases where the nature of the work admits of it, being the preferable mode of employing them.

Method of working and feeding the Horses.—In the spring and summer months the horses are worked ten hours per diem. The ploughmen are in the stable a little after four o'clock, a. m., to clean it out and to dress and feed their horses. They are ready to start at five; between seven and eight their breakfast, consisting of porridge and milk, is sent to the field, and after a few minutes, they are again in motion. At ten the horses are unyoked, and remain in the stable until two, when they again start for the afternoon yoking, which lasts until seven.

These hours of working are considered the best, as the horses are at rest and feeding during the heat of the day. In the interval, the ploughmen, by turns, cut clover or tares for the horses, which are carted home by a supernumerary horse that is generally kept for that and other purposes. During hay-time and harvest; or when the corn is carrying, no specified hours of working the horses are kept. In winter, when the weather admits of it, the horses are in yoke, except an hour and a half in the middle of the day, as long as there is daylight.

The mode of feeding the horses varies according to the ideas of the farmers, but the general method is as follows. During the spring months they get one feed of oats in the morning at ten o'clock; when they come in to the stable they get a mash of boiled light grain and turnips. Before they start again at two, another feed of oats is given, and when they cease working at seven the mash is repeated. Some farmers substitute Swedish or yellow turnips for the mash of boiled grain, which is found equally to answer the purpose of keeping the horses fresh, and in a good working state.

In summer, when the horses are fed on cut clover or tares, it is not usual to give them oats, as unless they are bruised, a practice not sufficiently attended to, it is not supposed they could be much benefited by them. In the winter months the horses get one feed of oats in the morning, and either mashes or raw Swedes in the forenoon. At eight, p. m., they are dressed and littered, and get a repetition of the mash. When there is much carting, as in driving lime, &c., the quantity of oats is increased. Hay and bean-straw form the rest of the food; and as there is little demand for the former, it is probable the horses get a larger proportion of it than they would otherwise obtain. Hay or straw-cutting does not prevail here as in England.

(From the New England Farmer.)

NEW VARIETIES OF WHEAT.

Mr. Fessenden,—The celebrated Tea Wheat, mentioned in the New England Farmer, vol. vi. page 82, I procured in 1828. I have sowed it with good success ever since. This wheat is no doubt a valuable acquisition to our agriculturists, and ought to be an encouragement for every one to circulate, for the benefit of others, every kind of seed which comes into his hands, whenever it is found to be valuable.

I have also a winter wheat brought to this country from the Black Sea, which I consider more important than the Tea Wheat, and as well suited to every soil and climate. In 1828 I had brought me about three pecks of this wheat. I selected for it a piece of ground which had been in crops about 20 years, and sowed it in the middle of December. I had 25 bushels of wheat from this sowing. I sowed it four years in succession, on the same ground, without any failure in the crop. The wheat, like your Tea Wheat, is not injured, by smut where other wheat is almost lost. It has a firm, hard straw which withstands our storms, and is not injured by the fly. The kernel is hard and firm, not subject to grow in the field from long fogs or rains. After several successful experiments in this grain, I thought it might suit our New England soil and climate. Three years ago I sent a cask to John Humphreys, Esq. Derby, Ct. It did well; the next year a barrel to the Hon. Matthew Griswold, whose place is situated on Long Island Sound, 14 miles from New London; part of the same to R. E. Seldon, Esq. 12 miles up Connecticut river. This wheat has been cultivated in all those places, and as I have heard a short time since, has far exceeded their expectations.

I prefer the Tea Wheat to any other I have ever seen for *family bread*, as it does not dry, after being baked, like the common wheat of this country and has a sweet, pleasant flavour; but it will not sell in our markets, only at a reduced price on account of the dark yellow shade of the flour.

The Black Sea Wheat, which has taken the name of White Flint, from the peculiar whiteness of the flower and the hardness of the shell which contains it, is dry and particularly calculated for sea bread, crackers, and all kind of pastry cooking, and, on account of its solidity, commands the first price in market; it being about 4 pounds heavier to the bushel than what is commonly called Western or Ohio wheat.

As the great and benevolent cause of temperance ought to be in the heart of every good citizen, I wish all our New England farmers, instead of raising rye to drink, would benefit themselves by this kind of grain, which I can assure them from real experience they will find a superior article both at their own tables and in market.

I have about 7 acres of the Black Sea Wheat which is said by those who pretend to be judges to be the best in this region; all or the most of it I should like to have sown in New England. My friends in Ct. have sent to me for a further supply of seed.

The wheat from the Black Sea I consider the same kind of wheat as the Tea Wheat; one is spring, the other winter. Neither of them are what we call *bearded*, but have a few scattering beards not over an inch in length; neither of them is liable to smut; I have seen only a few stalks in wet places and that is not like the wheat of this country, but comes on soon after it blossoms and is blown off long before the grain is ripe. The winter wheat has a stiffer straw than the spring and stands better in heavy rains, winds, &c. &c.

I have invariably had a better crop of the winter wheat than the spring on the same strength of soil, but on the high lands or dividing ridges where they have from 3 to 5 feet of snow through the winter, the spring wheat is a better and more certain crop.

Near Lake Erie our snows are about the same as on the sea board, and land which will produce from 40 to 50 bushels of corn per acre will bring from 20 to 30 of the Black Sea Wheat, sown on the corn hills in December. I have sown this wheat on corn hills, wheat and pea stubble, but prefer corn hills.

I have tried sowing this wheat from the last of August to the first of June, but the best crops which I have had, or seen, were sown the last of December early sowing one bushel to the acre, late sowing 36 qts. If I sow early, I prefer the last of September, if I cannot put the wheat in at that time, I prepare the ground, and let it be until I think the wheat will not be up before spring. I then cast on the wheat and cover it with a harrow. I think this would be the best plan to pursue on the seaboard, but a little experience will decide the point.

It is well known that what is called good wheat land is a stiff clay soil. In such a soil I should prefer the Red Chaff to the Black Sea Wheat. In this section of country we have almost every variety of soil. In a single field, in passing through my wheat I observed it did well on light sandy soil loam, which suggested the idea to me that it would be a profitable crop in New England.

From my own experience and observation I think wheat and corn are much improved by getting the seed from their natural soil. There is a region of country about 20 miles south of me where they raise very little wheat from their own seed, but by getting seed every season from near the lake they have fine crops: and we have our corn as much improved by sending to the state of Ohio where the soil is better for corn than our own.

If your farmers should find it for their advantage to grow wheat in preference to rye, and should find that the seed which I send does better than their own, with due notice I can furnish you in common seasons one month earlier than the present. We have now a good threshing machine in operation which will fit for market more than 100 bushels per day.

[The Editor of the American Farmer has written for a small quantity of both kinds of wheat mentioned above, and if he gets it, will supply those disposed to try it with a small quantity at as low a price as possible.]

A VALUABLE COW.

In Waltham, a cow eight years old, owned by Nathan Sanderson, has yielded the following quantity of milk in one year, viz:

From May 24, 1830, (when she calved,) to Oct. 23, - - - -	612	gallons.
From Oct. 23, to Dec. 2, - - -	104½	do
From Dec. 2, to April 20, - -	331	do
From April 20, to May 24, - -	93½	do
	1141	gallons.

It being an average of more than 3 gallons per day. Her quantity of milk per day at the present time, is ten quarts. She is expected to bring another calf March 4, 1832. Her milk in one week, furnished 13 lbs. of butter.

HORTICULTURE.

(From the New England Farmer.)

MR. KNIGHT'S NEW PEARS.

Mr. Fessenden,—Having been, through accidental circumstances, brought into correspondence with Thomas Andrew Knight, Esquire, and having been intrusted by him, with the dispersion of certain new varieties of pears, I think it an incumbent duty to state to cultivators the results of my experience as to the value of these fruits, in our climate; I mean strictly the climate of Boston and its vicinity.

His No. 1. *The Capiaumont*, of which he said nothing in praise, proves to be a healthy, vigorous tree, a great bearer, well adapted to our climate, of large size, and great beauty. It so closely resembles the old St. Michael in texture and flavor, that it can hardly be distinguished from it. It supplies its place fully in situations where the St. Michael has entirely failed for 15 years past. It ripens from September to November.

No. 2. *Tillington*, is a large and noble fruit, of excellent quality. It is superior to any pear we have except the old French pears, which are in a failing state in most gardens, out of our cities. It ripens from Sept. 15, to probably Nov. 15 in our climate. I have had some doubts, whether I, (*not Mr. Knight*) may not have confounded this pear with the Urbaniste. This can only be decided when the Urbaniste shall show fruit; at any rate it is a valuable accession to our fruits.

No. 3. *The Urbaniste*, if not mistaken for the Tillington, has never been tested by me.

No. 4. *Beurrè Knox*, is a great and profuse bearer. The pears are of a large size, admirably adapted to the market; its flavor and texture are good, but it is very prone to rot at the core, but not more so than the Jargonelle. It is at maturity from Oct. 1 to Nov. 1 in our climate.

Nos. 5 and 6. *Napoleon* and *Marie Louise*, pears of excellent qualities, great bearers, and rich fruits, but I am constrained to say, that they show a disposition to shed their leaves prematurely, and I hesitate to say, that they will be successful permanently.

No. 7. *Forelle*. I doubt the value of this pear in our climate. It is disposed to disease. It has no very high reputation in Europe.

No. 8. *Colmar d'Hyver* (*Gloria* synonime.) I have only seen some fine specimens from Mr. Parsons' garden, as yet unripe. It is of first rate excellence in Europe.

No. 9. *Passe Colmar*. A most productive variety, well suited to our climate, the best pear I ever tasted in the month of December.

No. 10. *Hardenpont de Printems*. (*Beurrè Rance* synonime.) This fruit produced two pears this season, of large size, but as it does not ripen till April, we cannot judge of it.

No. 11. *Sylvanche verte d'Hyver* or Winter Sylvanche, is one of the noblest pears, which I have ever seen, as to size, vigor, productiveness, and good qualities. It seems to be admirably adapted to our climate. These are all, of which I can speak from observation, except the *Duchesse d'Angoulême*. This is a large and vigorous year, not yet ripe.

I thought these remarks due to these who are now about selecting their varieties. Present hopes may be disappointed, but this should not deter me from giving all the information in my power, and this information has been given with the caution, that such a question requires. There is no horticultural vexation (I speak from personal suffering) greater, than being deceived in fruits, over which we have anxiously watched for 7 or 8 years. J. Lowell.

Roxbury, Oct. 6, 1831.

P. S. On the whole we may say, that the anticipation from Mr. Knight's present of new fruits has been more amply realized, than we had any right to expect, taking into consideration the uncertainties arising from difference of climate and culture. Mr. Parsons has specimens of the Bonne Malinoise, and of the Rouseleuch, and I have two pears of the Wormsley Grange; but as they are not ripe, and as the scions were received under great disadvantages, the labels having been detached, and we had only to conjecture the numbers from notches on the scions, which were nearly defaced, I would not hazard any opinion as to them. I shall, however, with a due sense of the importance to nursery men, and to *private* cultivators, who are after all the most important part of society, probably in the ratio of 1000 to 1, state distinctly, and without partiality or prejudice, my personal experience of the fruits *not yet tasted*. I owe it to my brother cultivators, to be very explicit on this subject, to guard them against the losses and vexations, which I have suffered for more than 30 years.

(From the Genesee Farmer.)

CURCULIO.

I believe there has been no year, in which the curculio has been so generally destructive as the present, since the first settlement of this country, *Plum* trees which had not failed to bear well for eighteen years in succession, are now destitute of fruit; and there are very few *peaches* to be found amongst us. The young fruit of these kinds indeed, was much scarcer than usual, but that of the *nectarine* and *apricot* was abundant; and yet nearly all have disappeared before this busy insect. The present season, however, is favorable for observation in regard to the causes which have saved particular trees, such as those in the public garden at Rochester; and I should be interested to read all such accounts as the readers of the Genesee Farmer can furnish.

To set a good example, I will, therefore, mention a case. I inquired of an acquaintance if he had plums this season? "Only one tree that bears well," was the reply. "I have another tree with some on it, but they are waxy, and don't look well." But where do those trees stand that do bear? "*The one that bears best, stands between the door and the well, almost in the path*; the other tree is further back in the lot."

It may be observed by way of explanation, that the curculio is so timid, as often to fall from the tree on the near approach of a person, and I have frequently taken them from my clothes; but if the tree is often jarred in the course of the day, they become so frightened and disturbed as to quit it entirely. D. T.

WINTER MELON.

At a meeting of the Horticultural Society of Charleston on the 10th August, of which we find an account in the Charleston Gazette, Mr. J. D. Legare exhibited the winter melon of the South of Europe, one of the properties of which was its keeping perfectly sound during the whole winter. These melons it is said are raised in large quantities on the shores of the Mediterranean and in the Orange Gardens of Toulon, whence the markets of Paris are supplied. They are also imported into England, and are to be found in the fruit shops every winter.

EXTRAORDINARY PRODUCTION.

Bethany, Wayne Co. Pa. Sept. 30.

We yesterday saw in the garden of Thomas Spangenberg, Esq. a vine, from which forty pumpkins had been taken, the product of a single seed, which came up spontaneously, averaging twelve and a half pounds in weight.

Three Figs were left at this office from the Garden of Joshua Longstreth, Esq. Arch street;—the largest of them measured seven and an half inches in circumference; the tree from which they were taken, it is supposed, bears at least one thousand of this luscious fruit.—*Phil. paper*.

RURAL ECONOMY.

On Preparing Butter for Exportation.

The following is a letter from Mr. Varle, *to the Editor of the American Farmer.*

Sir,—As the result of my travels for recording the improvements of the United States in agriculture, which I am preparing now for publication, might be delayed, and that in the meantime the public good demands that some important articles contained therein might be immediately known, I have thought to make use of your valuable paper, to convey information on a subject which grows every day of more importance to the community, which is, that part of agricultural economy, that indispensible article for both our consumption and exportation, under the name of butter, which if prepared as in some parts of Europe, or the state of New York, especially according to the following recipe, which emanates from one of the best manufactories of that article, would fetch double that price obtained in the southern markets, and of course would be productive of many thousand dollars yearly, to the advantage of this, as well as of the state of Penn., whose farmers through respect for old customs, although in an age of general improvement, manufacture yet that article as if it was for immediate consumption, and the consequence is, that it becomes rancid on their hands before it is ready for market. These are truths unfortunately evinced by the inferior quality of that article, sold in our markets, and by the recommendation of the inspector of this city, inserted in my work, towards exciting farmers to improving in the putting it up, which I make also public, for the public good, in this paper.

On the Preservation of Butter.

On the authority of Mr. Philemon Towson, inspector of butter of the city of Baltimore, who has for many years made experiments on that essential article of our domestic economy, I will give the following as the result of his practice:

In order to keep butter sweet, and preserve its balsamic quality, it ought not to be washed, as it is often done in water, but be worked until the salt is completely dissolved, and all the particles of milk disengaged from the butter;* this is to be accomplished by wooden paddles, and not as some do it by the hands, and in order to prevent the paddles from sticking to the butter, they ought to be well scalded, or rubbed with salt, and cooled alternately as often as wanted, and of course the same precaution ought to be taken about the churn; when butter is to be put up in kegs, they ought to be made of well seasoned wood, well cleansed and scalded; previous to the packing the butter, the keg ought to be rinsed with sweet brine or pickle; the general method pursued now, is by spreading salt on the bottom of the keg which is injurious to the butter. If there is not butter enough to fill the keg, which is often the case, pour immediately some strong brine, bearing an egg on the top, to exclude the air from it; then, when you churn again, take away that brine and put the butter in until you get the keg full; and whereas there is an impossibility to fill up the keg completely, and to obviate the introduction of air, it is proper to pour on the top some strong brine.

An object also of great importance is to have the keg well made, so as to keep well the brine, otherwise the butter would become rancid; another consideration of consequence for the farmer living far from the sea ports, is to make use of marine salt well pulverized instead of the back country salt during the whole process, the salt which is used in the western country being the production of salt wells, impart not only a dark colour but a bad flavour to the butter especially when newly manufactured.

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* This process ought not to continue too long, for fear the butter may become tough and gluey.

As to the butter which is packed in country stores, it ought to be put into the kegs in proportion as they receive it, and to cover it with brine, and never to put salt on it, because it does not dissolve, and is found in the grain, which is an injury to the butter; besides the following precaution ought to be observed in packing the butter in kegs, never to put the different colours of roll butter together, but to have kegs for every colour, and not to mix with it the roll which is rancid, because it gives a bad taste to the whole keg.

If both the farmer and country merchant did pay attention to the above recommendations, many thousand dollars would be gained by it in the U. States, for instead of making a butter which brings about 12 cents a pound, on an average, it would sell for 17 cents, of course from 40 to 50 per cent. more, and suppose 50,000 dollars.

The practice of surrounding the butter with water to serve it on the table to cool it, is certainly disadvantageous to the quality of the butter, although followed by the most judicious housekeepers in cities, and shows how little domestic economy is understood, for nothing is more pernicious than the contact of water with butter.

Mode of Making Butter and Cheese.

Enfield, Connecticut, March 27, 1827.

Friend Charles Varle:

Yours of the 10th instant came to hand in season, and agreeably to your request we have taken some pains to collect the best information we could obtain of the manner of making butter and cheese in our society, which is as follows:

For making butter; set the milk in tin or earthen vessels, when the cream is sufficiently risen, take it off and put it into a tin kettle, and set it into boiling water, and stir it until it is scalding hot, then strain it through a cloth, cool it and it is fit for churning, when the butter is come, and the buttermilk all worked out, and the butter well salted, put it into a sweet vessel, if it be a wooden vessel, the inside should be rubbed over with butter simmered to an oil, and the vessel should be kept covered close from the air.

For making cheese; take the night's milk and warm it, then strain the new milk into it, when mixed together have it about as warm as milk from the cow, then put in the rennet and let it stand one hour, then check it with a long knife, then turn on two or three quarts scalding water, so as to warm it all alike and let it settle a little while, then dip off the whey, then break it up all fine and pour on scalding water until it is as hot as you can well bear your hand in it, then cover it up and let it stand one hour, then dip it into a strainer and drain it well, then put in three quarters of a pound rock salt, and one teaspoonful of saltpetre pulverized, to a cheese of twenty pounds, (when cheese made in this manner, it is well to keep over a little curd and let it sour a little to put in with the new to prevent the cheese from spreading,) then put it into the press and let it stand about an hour, then turn it and put it into a dry cloth and let it stand until the next morning, then turn it again and put it into a dry cloth and press it 24 hours longer, and it will be fit for drying.

To make a double curded cheese, proceed just as above directed, until the curd is come and settled, then dip it into a strainer and drain it a little, then hang it up and let it sour a little, but if the weather is very hot hang it in a cool place to prevent it from puffing, the next morning cut it in slices and put cold water to it and let it stand until the new curd is come and settled, then turn off the cold water and dip in warm whey to warm it, then put in a laying of the old and a laying of the new, until you get the whole together, then let it stand a little while, then cut and drain it until the whey is out, then warm it with water about scalding hot, and when it is sufficiently cold and drained put in the salt and saltpetre, and press it as directed above.

The rennet is to be made in this manner: when the rennet skin is taken from the calf, empty it and wash it slightly with vinegar, then soak it in vinegar about ten minutes, then stretch it on a bow and dry it and keep it dry until time to make the rennet, which is to be done early in the spring while the weather is cool. Put the skins into a clean vessel and put pure water to them and let them soak about a week, then strain it off and sprinkle them with fine salt and let them lay together 24 hours, then put water to them and let them stand two days, then strain it off and so continue until the strength is out; when this is done put it into a glass or stone vessel, and put in rock salt enough to keep some at the bottom of the vessel undissolved, then stop it tight and put it in a cool cellar and it will keep good throughout the season.

Will you please to send us one of your books when they are done, by mail, or otherwise as you may think best, and say how we shall recompense you for the same. And oblige your esteemed friend,

Earl Jepherson.

N. B. The above method of making and packing butter is to be kept for winter use, but is not so good to use while new.

INTERNAL IMPROVEMENT.

FIFTH ANNUAL REPORT

OF THE

President and Directors, to the Stockholders of the Baltimore and Ohio Rail Road Company.

The President and Directors of the Baltimore and Ohio Rail Road Company, in presenting their fifth annual report, feel highly gratified in being able to congratulate the stockholders upon the increasing success, which has thus far attended the operations of the Company. The construction of the road, during the interval which has elapsed since the last annual report of the Board, has been steadily advancing with great activity; and there now remains no doubt, but that the first five divisions, extending from the city of Baltimore to the Potomac river, a distance of 67½ miles, as well as the lateral road to Frederick, will be opened for travelling during the present year.

Under the authority given by the City Council of Baltimore, a line of Railway has also been laid from the termination of the main stem of the Road, at the Depot, near Pratt street, down that street to the Basin, whence it is now under construction to the City Block, running parallel with the entire water front of the City, communicating with all the wharves, and intersecting all the principal streets which extend northwardly and southwardly, as far down as the public property south of Jones' Falls, at which place there have been conveyed to the Company, by the Corporation of Baltimore, two squares of ground, favourably situated for the convenient and economical transaction of an extensive commerce. An uninterrupted communication will thus, within a few weeks, be opened along the whole extent of the Road, between the Port of Baltimore, the Potomac river at the Point of Rocks, and the City of Frederick.

Upon this line a double set of tracks are nearly completed over a distance of twenty-seven miles; and a single set of tracks is also so nearly finished over the remaining forty-six miles, as to leave no doubt of its early completion. The requisite arrangements have likewise been made to secure the construction of the second track, along the whole line, to the Potomac river, during the ensuing spring.

When the work shall have been finished to the Point of Rocks, the operations of the Company, which have heretofore been interdicted beyond that place, by the injunction issued at the suit of the Chesapeake and Ohio Canal Company, must necessarily be suspended, unless a decision of the question of right, should, in the mean time take place, or the Canal Company agree to compromise the dispute. The delay which this litigation has already occasioned, is the more to be regretted, as there is no reason whatever to doubt but that if a spirit of accommodation existed on the part of the Canal Company, sufficient room would be found, for both works along the ground in dispute, even should that Company still adhere to the idea of extending their work to Cumberland—indeed, so far as the examinations have been made by the Engineers of the two Companies, it is fully ascertained that there is ample space for both the Rail Road and the Canal at a very inconsiderable additional expense.

The very great improvements which, within, a few years past, have been made in the construction of Rail Roads, and in the machinery employed upon them, have given to this system of transportation, so decided an advantage over all the other artificial means of intercommunication heretofore attempted, as to have inspired an almost universal confidence in it, both in our own country and in Europe. A Railway is now constructing between New York and Philadelphia, and another across the peninsula between the Chesapeake and Delaware bays, to connect with the steam boat travelling between Baltimore and Philadelphia, these works, are fast approaching towards completion, and will, when finished, ensure an easy and rapid communication between those three great commercial emporiums, reciprocally beneficial to them all, and vastly, increasing the travel and intercourse between them. By constructing a Railway from Baltimore to Washington, this line of communication would be extended from New York to the Capital of the United States.

Impressed with the importance of accomplishing this last object, in which the convenience of the whole community is so deeply interested, and believing that the road, if judiciously located and constructed would afford a fair remuneration to the Stockholders, the Board, have directed that during the present season the necessary examinations and surveys should be made for the purpose of ascertaining the facilities which the intermediate country offers for a Rail Road, and the approximate expense of its construction. In this duty the Chief Engineer of the Company with an efficient force has for some time been engaged.

The Legislature of Maryland, during the last session, passed an act which, among other provisions, authorized the Baltimore and Washington Turnpike Road Company to subscribe $100,000 to the stock of the proposed road to Washington, and reserving to the state the right to subscribe for five eighths of the cost of the road, from its intersection with the Baltimore and Ohio Rail Road to the line of the District of Columbia, amounting perhaps to a moiety of the whole proposed expenditure.

The Directors being desirous of procuring their steam machinery, as far as practicable, of American workmanship, and anxious to direct the mechanical genius of this country to its further improvement, offered a premium for the best constructed Locomotive Engine, which should be placed upon the road on or before the first of June, 1831, limiting the performance to a certain rate of speed and power of traction. Only one Engine has yet been offered, which on trial, appeared to be adapted to the structure of our road—this Engine it is believed, taking into consideration its weight, is, in point of efficiency nearly if not quite equal to any locomotive yet tried.

From the experiments which the Board have been enabled to make with it, they have fully ascertained that steam power may be used, on the Baltimore and Ohio Rail Road, at a rate of speed and economy of cost, which will fully realize the most sanguine anticipations of the Company; arrangements are accordingly now in train to procure a sufficient number of Locomotive Engines of a weight and construction suitable for travel and transportation on the road. These it is expected will be in readiness by the time the two sets of tracks shall be completed to the Potomac river, and until then, the transportation on the western divisions of the road will be effected by horse power.

The graduation of the inclined planes at Parr Ridge is nearly finished, and they will very soon be in readiness to receive the Rails. It is contemplated to place the necessary stationary engines with their appropriate fixtures there, as early as possible; and in the mean time horse power will be employed in passing them.

Considerable progress has been made in the improvements at several of the Depots of the Company, by the construction of substantial and appropriate buildings, and other requisite accommodations, adapted to the commerce of the road; and from the warehouses of the Company upon Camden street, a Railway will be laid up that street for the convenience of the return trade.—These arrangements will, it is believed, secure to the public, in the use of the road, every necessary facility and convenience.

As it was early foreseen that a very considerable commerce would be attracted to the city of Frederick, when the road should be completed to that place, the interests, both of the public and this company required, that a sufficient extent of ground should be procured, and the improvements necessary for the operations of the Company erected there. The municipal authorities of that city with a liberality not less honourable to themselves than gratifying to this Board, generously offered to convey to this company, free of cost, six acres of land, immediately adjoining to that city for a Depot: several of the citizens of Frederick also offered to obtain without charge to this Company, the right of way for the lateral road leading from the main stem to this Depot—these valuable grants were accepted by the Board, and the necessary conveyances have been duly executed.

The Depot at Frederick is so situated as to secure from it, an easy communication by lateral Railways into all parts of that city; the Company will therefore be enabled to receive produce or deliver freight upon any street where the inhabitants may extend the rail-way, and open suitable warehouses for the accommodation of the trade.

The system organized for the regulation of the business of the Company, and for the government of its agents, has, in its operation, been found to be efficient and practical, clearly defining the duties of the several officers and maintaining a strict responsibility in every department. It is also with sincere satisfaction, the Board can inform the Stockholders that notwithstanding the complicated operations of the Company requiring numerous agents, whose duties rendered it necessary they should be dispersed over an extensive district of country, the utmost harmony and fidelity, with the exception of a single instance referred to in the accompanying documents, have pervaded all the departments; and a most laudable disposition has every where been manifested by the officers and agents employed, zealously to co-operate in the advancement of the work, and in reciprocally giving to each other a cordial and efficient aid and support in the discharge of their several duties. This disposition has greatly facilitated the operations of the company, and very much abated the labours of the Board.

Upon reference to the report of the chief Engineer of the Company, and to the reports of superintendent of graduation and masonry, and of the superintendent of construction, which are hereto annexed, the stockholders will find a minute and circumstantial exhibit of all the operations of the Company, in relation to the location and construction of the road, subsequent to the time of the last annual report, down to this date, as well as of several highly valuable improvements which have, within the same period, been made in the machinery and moving power employed upon it. By these reports it appears that the actual cost of graduation and masonry upon the 71 miles between Baltimore and the Point of Rocks, including the lateral road to Frederick, will not exceed $1,101,615 or $15,500 per mile;* and that the cost of a double set of tracts upon the main stem of the road, and of a single set on the lateral road to Frederick will not exceed $805,238 or $11,628, per mile of road with a double set of tracks; thus making the total cost of graduating the entire line of these portions of the road, and of laying rails upon them $1,906,853 or $27,128 per mile. About one-third of this line will be laid with stone rails, and the remaining two-thirds with wood.

In this charge is included the heavy expenditures incurred on the first division of the road. According to the report of the superintendent of graduation and masonry; herein before referred to, it appears that the graduation and masonry of the 2d, 3d, 4th and 5th divisions of the road embracing the entire line between Ellicotts' mills and the Potomac river, and extending over a distance of 54½ miles, will cost $465,443 or $8,540 per mile; if to this be added $11,628, the average cost of laying a double set of tracts, on the entire line between Baltimore and the Point of Rocks, the actual cost of graduation, masonry and laying a double tract of rails on the road between Ellicotts' Mills and the Potomac, will be $20,168 per mile; and this district, it is believed, may be assumed as affording a fair specimen of the labour and expense which will be incurred on the remaining line of the road from the Point of Rocks to the coal mines in Allegany county.

The entire line of the road, from the Depot of the Company, near the intersection of Pratt street and the Washington road, at Baltimore, to the Point of Rocks is 67½ miles, to which is to be added for the distance thence to the eastern termination of the railway at the city block 2 miles, and for the branch road to Frederick 3½ miles, making the whole distance finished and under construction 73 miles. The excavation, embankment and masonry upon nearly 46½ miles of which have been completed within the last twelve months; and upon which there has also been laid 45½ miles of single tracks of rails within the same time.

In deciding upon the materials of which the rails should be formed, the board have continued to pursue the determination adopted soon after the commencement of the undertaking, which was in all cases where stone rails could be procured, to use them, and in those districts where stone of a suitable kind could not be obtained, to use wood of the best and most durable quality the country afforded. Throughout the district intermediate to the Patapsco and Potomac at the Point of Rocks, no stone of a quality suitable for rails has been discovered, and consequently upon this district wooden rails have, of necessity, been substituted. For the same reason a wooden viaduct, supported by substantial stone piers and abutments, has been constructed across the Monocacy river.

Although the first track on the 2d division of the road was completed several months since, yet as both tracks on this section will be of stone, and the second one has not yet been finished, it was found that the running of passenger cars upon this part of the road greatly interrupted the work and would considerably retard its completion; the general travelling has therefore, not been extended beyond the first division of the road, a distance of 13 miles.

Upon reference to the report of the superintendent of transportation, hereto annexed, it will be seen that 81,905 passengers have passed on this division since the first of January last, and that within the same period 5931 tons have been transported upon it, yielding an income of $31,405 24 and involving an expenditure of $10,994 87.

With the foregoing results before them, the Board have no hesitation in assuring the stockholders of their entire confidence, that when the legal obstructions, which now arrest the progress of the work, shall have been removed, the remaining distance of the road, between the Point of Rocks and Cumberland may be completed, with a double set of tracks, within three years; and they are fully confirmed in the opinions heretofore expressed, "that a rail-road upon the plan contemplated by the citizens of Baltimore, between that city and the Ohio river, is easily practicable—that its powers and facilities will be found to be equal to all the anticipations that were formed of its capabilities, when the work was first commenced, and that the most sanguine calculations of its importance and utility, whether the object be regarded with reference to its national and local advantages, or its profits to the stockholders, will be realized." PHILIP E. THOMAS, President.

Oct. 1, 1831.

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* Upon reference to the annexed report of the superintendent of graduation and masonry, a detailed statement of the separate cost for graduation and masonry upon the several divisions of the road, intermediate to the city of Baltimore and Potomac river, as well as of the lateral road to Frederick, will be found.

By this report, it appears that the graduation and masonry upon the first division of the road; embracing 13 miles, and extending from the city of Baltimore to Ellicots' Mills, has cost $46,354 56 cents per mile whilst the graduation and masonry upon the other four divisions, embracing 51½ miles, and extending from Ellicots' Mills, to the Potomac, will cost only $8,532 16 cents per mile.

That the graduation of 12¾ miles of the road near to Baltimore has cost as much as the graduation of the remaining 54¾ miles will cost.

That the masonry on 8¾ miles of the road near to Baltimore, has cost as much as the masonry on the remaining 58¾ miles will cost.

And that the graduation and masonry together has cost on the first 11 miles of the road 33,000 dollars more than it will cost on the remaining 56½ miles.

MISCELLANEOUS.

TOOTH ACHE.

Dr. Ryan, a physician of great respectability and extensive practice, gives in the Medical Journal for July, the following interesting statement. A gentleman who attends my lectures, (Mr. Myres, of Newington-cause-way,) frequently applied sulphuric acid to his tooth with some relief, but on one occasion, he, in a moment of confusion, took down the next bottle to his remedy, which contained nitric acid. To his great surprise, he experienced immediate relief. Since that period, he has not suffered from tooth ache, though three years have now elapsed.—During the last year, he informed me of the success of this remedy, which induced me to try it, while labouring under the most intense pain from tooth-ache. The effect was immediate, and no pain whatever was induced. I have since used it in numerous cases, and invariably with complete success. In some instances the disease does not return for days or weeks, and in others not for months. The best mode of employing it is, by means of lint wrapped round a probe, and moistened with the acid, which is then to be slowly applied to the cavity of the tooth; care being taken not to touch the other teeth, the gums or the cheeks. On withdrawing the probe, the pain is entirely gone. The mouth is next to be washed with tepid water The acid should be gradually applied to the whole cavity of the tooth, or otherwise a second application will be required before complete relief will be obtained. This remedy may be used when the gum and cheek are inflamed, so as to preclude the possibility of extraction. In cases where the diseased fang remains, and when the caries face the adjacent tooth, it obviates the necessity of extraction in all cases of hollow teeth, which all practitioners declare to be desirable, if possible; and it enables the dentist to perform the operation of stopping or filing teeth, much sooner than he can otherwise accomplish. In a word, it will alleviate a vast deal of human suffering, and supersede a most painful operation. It is not a panacea for all the diseases of the teeth and gums, though a certain and efficacious remedy for the most common cause of tooth-ache. It will be a valuable remedy for children, delicate persons, and pregnant women. It does not accelerate the decay of the tooth to which it is applied.

DESCRIPTIVE NAMES.

At a late meeting of the Horticultural Society in London, there were ten different sorts of gooseberries, the names of which are somewhat singular: rumbullion, rough red, Brotherton's huntsman, Perring's evergreen, red champagne, Leigh's fuddler and Leigh's rifleman, Collier's jolly angles, Farrow's roaring lion, and Fekersley's jolly printer.

THE FARMER.

BALTIMORE, FRIDAY, OCT. 28, 1831.

American Silk.—The Baltimore Times of Saturday 15th inst. contains the following letter from Mr. Du Ponceau, on the subject of our remarks on an article published in that paper of the 24th ult. As to the fact asserted by the Times, denied by us, and reasserted by Mr. Du Ponceau, that Mr. Rapp had been freely admitted to Mr. Du Ponceau's filature, we are sure there must be some mistake, because neither Mr. Rapp nor Mr. Du Ponceau are capable of asserting what is not true. Indeed we believe we can clear up the mystery, without involving either the integrity or candour of any of the parties, even of ourselves, (which, to us, will be of some importance, as it will be seen that Mr. Du Ponceau "cannot give faith to the statement of the Editor of the American Farmer.") We think it probable that Mr. Rapp may have intended to say that he had not visited the *throwsting mill* at Manayunk, (mentioned in Mr. D. P's letter,) which Mr. D. P. says he was to do; this is rendered the more probable as the conversation was particularly directed to the fact stated in the Baltimore Times, that Mr. Rapp had erected a throwsting mill of 96 spindles, and to the remark that "in imitating it (Mr. D'Homergue's filature) he would no doubt succeed." Mr. Rapp it is probable understood the phrase *imitating it,* to imply that he had imitated Mr. D'Homergue's throwsting mill, and hence denied that he had ever visited it. But, although he may not have intended to deny having visited Mr. D'Homergue's filature, his denial was very explicit that he had imitated any part of Mr. Du Ponceau's and Mr. D'Homergue's works, which it is clearly intimated he did in the article in question. In this misunderstanding we may be alone in fault, if there be fault any where—indeed we would prefer that whatever odium may be attached to the unintentional dissemination of error should rest upon our own shoulders, than that either of those gentlemen should be suspected of a deviation from the rules of candour.

We therefore readily yield this point, and admit that Mr. Rapp did visit Mr. Du Ponceau's filature, as stated by Mr. D. P. In doing so, however, we must not be understood as abandoning the other and most material objection we made to the article in the Times. The sentence to which we objected is as follows:—

"Mr. Rapp and Mr. Cobb, are both very ingenious men, and if any can succeed in such an undertaking they will. They have both been freely admitted to see Mr. D'Homergue's filature, and have witnessed its mode of proceeding. In *imitating it* they will no doubt succeed as far as talent and ingenuity can do."

Now if this paragraph is not intended to convey the idea that Mr. Rapp had imitated Mr. D'Homergue's filature, and that his success was or would be a consequence thereof, then we confess ourselves at a loss for its true meaning. It was this that formed the subject of our remarks, and the fact of Mr. Rapp's visiting the filature or not, was a matter of no importance. The intimation that he was indebted to Mr. Du Ponceau and Mr. D'Homergue for the information that enabled him to carry on his silk business, was the main point we intended to controvert; and this we continue to deny. We repeat, that Mr. Rapp expressly declared that no part of his works were in imitation of Mr. Du Ponceau's; therefore, if he took the measure of the reels and a drawing of one of them, he certainly did not adopt them as models, nor *imitate* them.

Whatever Mr. Rapp may heretofore have thought of Mr. Du Ponceau's plan for learning sixty young men to reel silk, (for which he demands of the government forty thousand dollars,) he certainly does not think favorably of it now; for he expressly said "it would be throwing the money away."

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Philadelphia, 11th Oct 1831.

To the Editors of the Baltimore Times,

Gentlemen,—I have received your favour of the 8th inst. enclosing an extract from the American Farmer, in which it is asserted on *the alledged authority of Mr. Rapp,* that, that gentleman "*never* visited my silk filature, and that when he was in Philadelphia, I requested him to go and see it, but he *declined.*"

As your veracity is thus called in question, in consequence of a fact which you asserted on the faith of information received from me, you have certainly a right to call upon my testimony to support it, and I most freely give to you.

Some time in the summer of 1830. Mr. Rapp was introduced to me by a mutual friend, and expressed his desire to see my filature. I agreed to it at once, and had the pleasure to accompany him thither with his friend and associate Mr. Muller, of Economy; there we met Mr. D'Homergue, and if I am not mistaken, there were at that time six or seven reels at work. Mr. Rapp and his friend remained there more than one hour, examined every thing, and even took the measure of our reels and made a drawing or sketch of one of them. They were invited to ask every question they pleased, as well of the women as of Mr. D'Homergue. They availed themselves fully of that permission, and at last departed in appearance quite satisfied.

Since that time, I have been favoured with several visits from Mr. Rapp, in which we freely conversed together on the subject of silk, and never disagreed, that I recollect, on any point. I spoke to him of the plan I had proposed to Congress on the invitation of their Committee on Agriculture; he approved of it fully and said it was the best mode of introducing the culture of silk into this country; on the whole, his conduct to me was so friendly, so frank, so cordial, that I lose myself in conjectures, when I reflect on the article you have sent me in which some mystery is involved, which Mr. Rapp alone can unravel, and until he does, I cannot give faith to the statement of the editor of the American Farmer.

On Mr. Rapp's last visit to Philadelphia, on his way to the northward, I think two or three weeks ago, he did me the favour to call upon me, and told me that on his return, he would again visit my filature, and Mr. D'Homergue and he were to have gone together to Manayunk to see Mr. Ripka's throwsting mill. He, however, passed through and went to Baltimore without stopping, where, it seems, he was shewn by Mr. Smith, one of your editorial articles, which, if he explained it to him in the manner in which he says you *clearly intended* it should be understood by the public, would shew that he either did not or would not understand your meaning, which was evidently to praise the exertions of Mr. Rapp, far from saying or insinuating any thing derogatory to his talents.

You are at liberty to make of this letter what use you may think proper.

I am with great regard and esteem,
Your friend and humble servant,
PETER S. DU PONCEAU.

P. S. The last time I saw Mr. Rapp, he spoke to me of his throwsting mill of 86 or 96 spindles; but did not tell me it was *imitated* from any model, much less from a machine that reels and twists at the same time, which you know to be impossible. He said he had a great number of skilful Germans on his establishment. He never did pretend to compete with Mr. D'Homergue in the art he professes.

ACORNS FOR JUDGE BUEL OF NEW YORK.

Annapolis, October 22, 1831.

Dear Sir,—Upon reading a notice of yours in the American Farmer, for acorns to be sent to the Horticultural Society of London, I turned my attention to the collection of acorns, of each kind of our oaks.

When I commenced this undertaking, I had classed these trees under the heads of White Oak, Black Oak, Red Oak, Water Oak, Chestnut Oak, Spanish Oak, and Willow Oak; being of opinion that there was but one species of each of these classes. The result of my search has astonished me.

I have found 12 kinds of White Oak, 11 kinds of Black Oak, 3 kinds of Red Oak, 4 of Water Oak, 3 of Chestnut Oak, 3 of Spanish Oak, and 2 of Willow Oak, all of which are under distinct covers, and numbered so as to designate each. I have put in also three other papers labelled "varieties," being different from those regularly numbered.

The acorns and cups of these varieties are in most cases dissimilar, as also the appearance of the trees. And even where there is a resemblance in the cups and acorns there is a manifest difference in the general appearance of the trees. Of number 3, Chestnut Oak, there is but one acorn, my hogs had got the others before I discovered it. These Oaks take their name from the leaf resembling the Chestnut, but the leaf and bark of this particular tree, more resembles the Black Oak.

Yours respectfully,
RICHARD HARWOOD, of Thos.

To JOHN S. SKINNER, ESQ.
Honorary member of the Hort. Society of London.

[We hope some of our friends will comply with the request contained in the following note:]

I would thank you to institute an inquiry in your paper, as to the mode of getting out and cleaning clover and orchard grass seed, but especially the former. I have found it very difficult to get my clover seed clean. If any of your correspondents will be so good as to state particularly what is the proper mode from the time of the clover being cut, it would be acceptable to many of your subscribers as well as to your obedient servant, J. T. J.

MR. SMITH: *Fredericksburg, Va Sept.* 30, 1831.

It is now about six months since I became a subscriber to your invaluable paper, the Farmer, and being so much delighted and edified in that short space of time, it is with unfeigned pleasure that I enclose you the five dollars now due, and if your price was double that amount it would be remitted with no less pleasure. I am a young man, not long entered upon this boisterous and tempestuous world of politics and parties, having no wish, if I were capable, to become conspicuous in the former, or a zealot in the latter, but loving retirement, and knowing my humble abilities to be of an order not sufficiently high to promise success in any of the learned professions—contrary to modern custom, I have selected the now more honourable profession of farming as my vocation. My patrimony consists of an almost exhausted tract of land, containing a thousand acres, and about fifty slaves. If I were to consult my own interest entirely, the most advisable course would be, no doubt, to sell both the land and slaves, but having inherited them from my father, and the land being the place of my nativity, and the slaves the companions of my childhood, my heart revolts at the idea. On this tract, there not being a sufficient quantity of arable land to employ so many slaves advantageously, or to divide it into four shifts, I shall be compelled to adopt the ruinous and land killing three shift system, which I am conscious, without some remedy, will bring upon me inevitable ruin. Then the first questions that present themselves are—how is this to be averted? How remedied? Less than one third of this land will not afford employment to my hands. Can any other division be made that will be more beneficial to the land, and at the same time give employment to my slaves? Can land be improved by clover and plaster that is cultivated every third year? When ought clover to be sown, and what quantity? When ought plaster to be sown, and what quantity? What crop can be cultivated with most profit to myself and advantage to my land? Which is the best mode of making large quantities of manure, when and how should it be applied?

The object of this communication is to elicit information upon the above inquiries, from some of your intelligent and numerous correspondents, or if they have been answered in any previous volume of the Farmer, by giving it an insertion when you have space, you will confer a lasting favour upon TYRO.

THE SOUTHERN CROPS.—A letter from Williamson county, Tennessee, dated Sept. 22nd, says:—"Our crops of corn are very good; those of cotton are large and luxuriant, but there is scarcely a bole to be seen yet opened, and unless we have a dry time and a warm season in October, it is believed we shall not have one third of a crop. Many people are now cutting off 18 inches to 2 feet of the tops of the cotton to check its growth and let the sun in upon it, which I deem a good plan. I have 125 acres in cotton, and expect to have 1200 barrels (6,000 bushels,) of corn."

ALABAMA CORN CROPS.

Extract of a letter dated Oak Hill, Alabama, Sept. 26, 1831.

This is a newly settled part of the state, but persons have got considerable farms opened, and we have the best crops that I ever saw in any part of the world. To give you some idea respecting corn crops, I will just name one, which lies on the south prong of the Oakmulgy river, two and a half miles from me: two men, good farmers, and fair characters, examined a Mr. Graham's crop of corn, and informed me that it was planted four feet distant; and from two to seven stalks in each hill, and that it would average five large ears to the hill, besides short corn. Mr. Graham only works three hands, and it is believed that he will make fifteen hundred bushels of corn He has also a fine crop of cotton wheat and potatoes.

Prices Current in New York, Oct. 22.

Beeswax, yellow 18 a 21. *Cotton*, New Orleans .10 a .12; Upland, .7½ a .10; Alabama, .8 a 11. *Cotton Bagging*, Hemp, yd. 14½ a 17; Flax 13 a 14½; *Flax*, American, 7 a 8.——*Flaxseed*, 7 bush. clean .—— a .—— *Flour*, N. York, bbl. 5.50 a 5.62; Canal, 5.87 a 6.00; Balt. Hwd.st. 6.00 a 6.12; Rh'd. city mills 6.25 a ——— country, 6.12 a 6.25; Alexand'a, 5.75 a 5.87; Fredericksburg 5.62 a ——; Petersg. 5.62 a ——; Rye Flour, 4.25 a 4.37; Indian Meal, per bbl. 3.87 a 4.00; per hhd. 17.25 a 17.50; *Grain*, Wheat, North, 1.12 a ——; Vir. 1.16 a 1.23; Rye, North, 80 a —; Corn, Yel. Nor. 63 a 65; Barley, 1.15 a 1.18; Oats, Sth. and North, .38 a 48; Peas, white, dry, 7 bu. 5. Beans, 7 bu. 7.00 a 8.00; *Provisions*, Beef, mess 7.00 a 8.00; prime 5.00 a 5.25; cargo 3.50 a 4.00; Lard, 9 a .10; Pork, mess, bbl. 13.00 a 13.50; prime 10.00 a 11.00.

POMOLOGICAL MANUAL,

Just published, and for sale by the subscriber, the Pomological Manual, or Treatise on Fruits, containing descriptions of a great number of the most valuable varieties for the orchard and garden. By Wm. Robert Prince. Part 1—price $1. GIDEON B. SMITH.

PÆONIES, HEMOROCALIS, CROWN IMPERIALS AND TULIPS.

The subscriber has just received a splendid assortment of PÆONIES, consisting of ten varieties, among which are Double purple fringed, Double white, Roseate, Virgin white, Blush, Crimson and violet. Price of the 10 varieties, one plant each, $12.50.

HEMOROCALIS, OR DAY LILY, 8 varieties, viz: Splendid White, Blue Japan, Siberian Grass leaved, Red or Copper colored, double Red, striped leaved, bright Yellow, and Chinese Red autumn flowering. Price of the 8 kinds, one root each $4 50.

CROWN IMPERIALS AND FRITILLARIES, viz. Silver striped, Crimson, Yellow, Red, and mixed colors and kinds; and broad leaved and oblique leaved Persian Fritillaries. Price 25 a 50 cents each.

TULIPS, a few hundred roots, mixed colors and kinds, at $3.00 per hundred—or 5 cents each.

GIDEON B. SMITH,
Amer. Farmer Office.

FRUIT, ORNAMENTAL TREES, SHRUBS, AND PLANTS.

SINCLAIR & MOORE,

Inform their friends and the public generally, that their stock on hand this season is large, of thrifty well grown trees, except those marked on the catalogue. The fruit in this establishment are all carefully grafted or inoculated mostly from bearing trees, of the choicest collection of American and European fruits.

This nursery will afford purchasers in our own state the important advantage of planting their trees on the first, second, or third day after they are taken out of the ground, (provided the holes for the trees are previously dug, which they always ought to be,) having quick transportation to most every part of the state.

Printed catalogues for this season describing the names of plants, time of ripening, and price, as also directions for planting, to be had gratis at their Plough and Seed Store, Pratt street wharf, Baltimore, or at their Nursery, three and a half miles east of the city, between the Philadelphia and Bellair roads; the best and nearest way to go to it is by going out the latter road two miles, to a pointer of further direction. The senior partner resides on the premises, and constantly superintends the same, and would be pleased to see persons disposed to encourage, or view their extensive collection, where they can see and choose for themselves.

For the information of those who are not in possession of a catalogue, they will mention some of the principal articles ready for sale, to wit:—

Apple, Pear, Peach, Plum, Cherry, Apricot, Nectarine, Fig, Gooseberry, Currant, Raspberry, Strawberry, Quince of sorts—Grape Plants, fine size, many choice kinds, Thorn and Honey Locust for hedges.

ORNAMENTAL TREES.

English Elm of middling and extra large size.

Italian White Mulberry, of do. and large do.

Horse and Spanish Chestnut.

Linden and Sugar Maple Trees, Paper Mulberry, Abeal or Silver leaved Poplar, Yellow and Honey Locust, Chinese Aleanthus, or tree of Heaven, English Walnut, Mountain Ash, Buttonwood, Black Walnut, &c. &c. Balm of Gilead, or Silver Fir, White or Waymoth Pine, Dwarf Box, Cutting and Rooted Plants, Black Double Spruce, Arborvitæ.

ORNAMENTAL SHRUBS.

Roses, both hardy and Chinese or ever blooming, a good assortment, Double Althea a superior collection, Linock five kinds, Snowberry Tree, Grounsel Trees, Roseacacia, Corehories, Scarlet Trumpet Creeper, White Flowering Virginbower, White Flowering Jasmine, Yellow Flowering do., Scarlet Trumpet, Monthly Honeysuckle, White Striped Monthly do. of exquisite fragrance, Multiflora Rose, Graville's Superb Multiflora, cuttings of Grape, Apple, Peach, &c.

Oct. 14.

DURHAM SHORT HORN CATTLE.

For sale several Cows and Heifers of the above breed, full blooded, and also others of different grades of blood. Apply to the Editor of the American Farmer.

BALTIMORE PRICES CURRENT.

BALTIMORE MARKET.—There is a further decline in flour in consequence of the increased receipts. Yesterday the wagon price of Howard street fluctuated between $5.12½ and 5.25, and was confidently expected to go down to $5. There is also a partial decline in wheat, but other grains remain stationary. Beef is down to its usual fall price, and is plentiful. In other articles of country produce there is nothing worthy of special remark.

TOBACCO.—Seconds, as in quality, 3.00 a 5.00; do. ground leaf, 5.00 a 9.00.—Crop, common, 3.00 a 5.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 10.00; yellow and red, 8.00 a 14.00; yellow, 14.00 a 16.00.—Fine yellow, 16.00 a 20.00.—Virginia, 4.00 a 5.00.—Rappahannock, 3.00 a 4.00——Kentucky, 3.50 a 8.00. The inspections of the week comprise 589 hhds. Md.; 49 hhds Ohio; 21 hhds. Kentucky; and 20 hhds. Virginia—total 679 hhds.

FLOUR—best white wheat family, $6.75 *a* 7.25; super Howard-st. fresh $5 37½ *a* ——; city mills, fresh 5.12½ *a* 5.37½; Susq.— *a* —; CORN MEAL bbl 3 50; GRAIN, Md red wheat, 1.00 *a* 1.06; white do. 1.15 *a* 1.20, Susq.— *a* —CORN, white, 53 *a* 55—yellow 53 *a* 55—RYE, 70 *a* 72. OATS, .33 *a* 35. BEANS, 75 *a* 80—PEAS, 65 *a* 70—CLOVER-SEED 5.25 *a* 5.75—TIMOTHY, —— *a* 2.50—ORCHARD GRASS 1.50 *a* 2.00—Tall Meadow Oat Grass 2.00 *a* 2.50—Herd's, 75 *a* 1.00—Lucerne — *a* 37½ lb.—BARLEY, —FLAXSEED 1.25 *a* ——COTTON, Va. 8 *a* 9———Louisiana 9 *a* 12 ——Alab. 9 *a*. 11——Tenn.. 8½ *a*. 9½; N. Car. 8 *a* .9½—— Upland 8 *a* 10—WHISKEY, hhds. 1st p. 33½ *a* ——; in bbls. 35 *a* 35½——WOOL, *Washed*, Prime or Saxony Fleece 58 *a* 67; American Full Blood, 50 *a* 58; three quarters do. 44 *a* 50; half do. 38 *a* 44; quarter and common do. 35 *a* 38. *Unwashed*, Prime or Saxony Fleece, 33 *a* 37; American Full Blood, 30 *a* 33; three quarters do. 28 *a* 30; half do. 25 *a* 28; quarter and common, 22 *a* 25—— HEMP Russia ton, $255 *a* —; Country, dew-rotted, 5½ *a* 7c. lb. water-rotted, 7 *a* 9c.—Feathers, 36 *a* 38; Plaster Paris, per ton, 4.37½ *a* —, ground, 1.37½ *a* — bbl. Iron, gray pig for foundries per ton 33.00 *a* ——; high pig for forges, per ton, 28.00 *a* 30.00; bar Sus. per ton, 72.50 *a* 80.00.—Prime Beef on the hoof, 4.25 *a* 4.50—Oak wood, 3.00 *a* 3.25—Hickory, 4.25 *a* 4.50—Pine 2.00 *a* 2.25.

CONTENTS OF THIS NUMBER.

Management of Farms in England; Select Farms, No. III. Description of a farm in the Western Extremity of Eastern Ross, presented by Mr. John Baigrie: Draining, Blasting Stones, Trenching, Fences, Preparation for Turnips, Liming, Turnip Sowing, Wheat, Expense of Improvement, Rotation of Crops, Sheep Walks, Method of Working and Feeding Horses, &c.—New Varieties of Wheat—Valuable Cow—Mr. Knight's New Pears—Curculio—Winter Melon—On Preparing Butter for Exportation—Making Butter and Cheese—Fifth Annual Report of the Baltimore and Ohio Railroad Company—Tooth Ache—Descriptive Names—Editorial, American Silk; Acorns for Judge Buel of New York; The Southern Crops; Alabama Corn Crops; —Prices Current in New York and Baltimore—Advertisements.

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TERMS.

1. Price five dollars per annum, due at the middle of each year of subscription.
2. Subscriptions are in all cases charged *by the year*, and never for a shorter term.
3. When once sent to a subscriber, the paper will not be discontinued without his special order; and then not till the end of the year of his subscription that shall be current at the time of receiving such order; except at the discretion of the publisher.
4. The risk of mail in the transportation of both the paper, and of bank notes sent in payment for it, is assumed by the publisher.
5. Advertisements connected with any of the subjects of the American Farmer, inserted *once*, (seldom more) at *one* dollar per square.
6. All letters concerning this paper must be directed to the publisher. They must be free of postage, except communications intended for publication, and letters containing money.

☞ All Postmasters are requested to act as agents for the Farmer; they are authorised to retain $1 for each new subscriber, and 10 per cent. on *all other* collections.

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AGRICULTURE.

(From the Library of Useful Knowledge.)

PLANTING.

The subject of planting may, with propriety, be divided into three parts: useful or forest-tree planting, ornamental or garden planting, and orchard or fruit tree planting. Each of these divisions of the subject, from its importance and interest, in a national point of view, as well as to individuals, seems to demand a distinct treatise.

The first of these, forest-tree planting, is proposed for the subject of the following pages; and the details of the theory and practice of the art discussed under the following heads:

1. Of some of the advantages resulting from judicious planting.

2. Of the structure of trees; and of the natural agents which influence and govern the growth of the plant from the period of germination to its full maturity. Of the seeds of forest-trees; and of the processes of vegetation.

3. Of the different modes of rearing forest-trees:—by sowing the seeds on the spot where they are to remain for timber; of sowing the seeds on nursery beds, and afterwards transplanting the young plants to their timber sites; by preserving and training proper shoots or suckers, produced by coppice roots or stools. Comparative advantages and disadvantages of these different modes. Of simple and of mixed plantations.

4. Of the soils and sites most profitably employed in the growth of timber. Intimate nature of the different soils peculiarly adapted for the growth of particular species of forest trees.

5. Of the most approved modes of preparing different soils for the reception of the plants: fencing, draining, ploughing, trenching. Of the formation of rides or carriage-ways into the interior of plantations. Of the best mode of covering these with herbage.

6. Of the culture of plantations: soil, pruning, thinning. Remedies for accidental injuries, and natural diseases of forest-trees. Seasons for felling trees. Of the tannin in the bark of different species of trees.

7. Of the progressive increase of the size or produce of wood in different species of trees. Of the mode of valuing plantations: present value; prospective value. Of the products of plantations. Of some individual trees which have attained to great perfection. Of the terms used to denote certain products of plantations.

8. An enumeration of the different species: those of large growth, those of under growth for copse wood, ornament, or shelter. The generic botanical characters. Their natural soils; mode of propagation; and the uses to which their timber is more generally applied.

CHAPTER I.

Of some of the Advantages resulting from judicious Planting.

Judicious planting and the skilful culture of plantations combine national and private interests in an eminent degree; for, besides the real or intrinsic value of the timber or ostensible crop, with other produce of woods, available for the arts and comforts of life, judicious forest-tree planting improves the general climate of the neighbourhood, the staple of the soil, as regards the gradual accumulation of vegetable matter, affords shelter to live stock, promotes the growth of pasture and of corn crops, beautifies the landscape, and thus greatly and permanently increases the value of the fee simple of the estate and adjoining lands.

If we turn to those soils emphatically termed wastes—exposed, elevated lands, moors, bogs, and sterile sands—composing so large a portion of the British empire, and naturally clothed by the lowest and least valuable products of the vegetable kingdom, the inferior grasses, mosses, rushes, sedges, ferns, and heaths—we find that upon them the more valuable domestic animals cannot exist. If we consider the reason why they are so barren, waste, and unproductive, when compared with other lands not more favoured by nature, and under similar circumstances of latitude and elevation, the cause will, in many instances, be found in the want of the shelter and shade of trees, and of the ameliorating influence which plantations exercise on ungenial local climates.

The essential, permanent pasture grasses cannot be established on naked exposed situations; but when assisted by the shelter of forest-trees they become permanent and productive. Plantations supply us with fuel, with materials for fencing, enclosing, building; corn crops, soiling plants, and root crops are obtained in succession under their genial protection. Many thousands of acres now unprofitable to the owners and to the community, might, by judicious planting, be reclaimed, and rendered highly productive; and it may be safely affirmed, that there is hardly a spot of waste land in the kingdom so barren, which by the exercise of skill in planting, and selection of proper species of forest-trees adapted to the soil and exposure, might not be covered with profitable plantations.

Numerous instances might be cited from different parts of the kingdom where exposed and sterile lands have, by planting, been made capable of producing valuable arable crops and the best pasture grasses, and of rearing and fattening stock of improved breeds. This, in effect, is adding to the territorial extent of a country, to its wealth and strength, by conquest over the natural defects of local climate, soil, and exposure.

CHAPTER II.

Of the Structure of Trees, and of the Natural Agents which influence and govern the growth of the Plants, from the period of Germination until the Trees arrive at full maturity.

Plants being living organized bodies, a just knowledge of the functions of their vital organs, and of the principal natural agents which influence their progress of growth to maturity, will be found a useful, if not an indispensable assistant to guide the practical planter in rearing trees in the most judicious and successful manner. This part of the subject properly belongs to vegetable physiology; and as the limits of an essay do not allow of entering into minute details, we shall here only notice those leading features of the structure of trees, and those functions of their vital organs, which more immediately influence the practical operations of the planter. In considering the progress of vegetable life, physiologists have distinguished six principal parts of a tree: the *root*, the *stem*, the *branches*, the *leaves*, the *flowers*, and the *fruit* or *seed*.

The varieties of the root of forest-trees are characterised by the names of tap root, fibrous root, and creeping root, these may be considered rather as indicating particular states of the same organ at different stages of growth than as permanent or specific distinctions.*

The tap root is that which first appears on the vegetation of a healthy seed, and penetrates perpendicularly into the soil. From it issue numerous minute radicles; and as the proper leaves are developed, lateral roots or fibres are formed and sent out from the sides of the tap root, particularly at the point of junction situated between the radicle and stem.

As the plant advances in age the distinction of the tap root is lost, either by decay or by its taking a horizontal direction in common with the general mass of roots, and from which in a few years, it is not to be distinguished. Other leading roots are frequently formed from the first delicate lateral fibres, which pervade the tap root, and sometimes from its extremity when it happens to divide into parts, which always takes place when the extremity comes in contact with a richer or more genial soil, or, on the contrary extreme when it meets with obstructions in its first or early descent from whatever cause, rocks, gravel, &c. or by injury from insects: if the tap root be taken from the seed leaves before the plumula appears, or before the development of the proper leaves, the young seedling dies, and, again, should the tap root be deprived of the seed leaves before the production and expansion of the proper leaves, no farther reproduction or growth takes place. The uses of the tap root, it will readily be perceived from these facts, are of great importance to the plant in its first stages of growth, and may be compared to the equally essential and important uses of the seminal leaves, at the same period; but its subsequent destruction does not, as it has been supposed, influence injuriously the ultimate produce or value of the tree.

Two or any equal number of trees, for instance, of the same age, of the like constitution, and reared on a soil of the same nature, the one from seed on the spot, the other being transplanted from a nursery bed, without, or with a portion only of its tap root, will give results which prove that trees, when transplanted at a certain age and size, and in all other respects of culture under the same circumstances, produce timber in quantity and in quality equal, if not superior to untransplanted seedlings. Whether, therefore, to raise forest-trees from seed on the spot where they are to produce timber, or in nursery beds, and afterwards transplant them, is a question of mere expediency.

Where seeds of the kinds of forest trees desired can be had at little cost; where the soil is friable; is in a perfectly clean state, and consequently adapted to the plough culture; where such animals as are destructive of seeds and young plants, as mice, rooks, and game, particularly hares and rabbits, are not likely to be greatly destructive; and where the cost of labour is not comparatively high, then sowing the seeds of forest trees on their timber sites, may be the best practice and be adopted with success. But where, on the contrary, these obstructions exist or are probable, transplanting select healthy trees from nursery beds, though the plants be deprived of their tap roots, will be found more economical in the first outlay, and in the subsequent cost of culture; and the most profitable, as affording a quicker return of profit in prunings and thinnings, and will produce timber in a less number of years from the time of occupying the land for that purpose.

The fibrous root is that which is most common to forest-trees. It consists of numerous divisions or bundles of fibres, furnished with minute spongeols, and nearly representing the divisions or ramifications of the large and smaller branches and buds of the tree.

The variety of creeping root is chiefly confined to those trees which have the roots running horizontally, as in some species of poplar, elm, &c.

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*In practical planting, as well as in practical botany, the root is considered to be that part of a plant which is hid underground, and the varieties of it are characterized according to the shape and mode of growth, as bulbous, tuberous, fibrous, or creeping; these again are susceptible of subdivision as they vary from the type. In physiology, however, the fibres or radicles are alone recognised as the roots, as it is they only which take up the food of the plant supplied by the soil.

The tuber of the turnip, potatoe, &c. and the bulb of the hyacinth, &c. are properly reservoirs in which to deposit the food of the plant until wanted in season for the production of leaves, flowers, and fruit, or seed. Indeed, bulbs and tubers may be considered the plant itself in certain stages of its progress to maturity. A deciduous forest-tree in winter, when without its leaves, flowers, and seed, may be compared to a bulb or tuber, when destitute at the same time of these parts of a plant. Roots, in general, are also distinguished in practice as to duration, being annual, biennial, and perennial.

The organization of the root is similar to that of the stem and branches, from the *pith* which forms the centre of the body to the *epidermis* which covers the bark. Each part may be traced in uninterrupted continuation, from the minutest radicle of the root to the extremity of the smallest branch or bud of a tree.

When a root of whatever kind is divided, its horizontal section exhibits three distinct parts, the *pith*, the *wood*, and the *bark;* and a transverse section of the *trunk* of the tree, or of a branch, exhibits exactly the same parts.

The *pith* forms the central circle of a *root, stem,* or branch: it is a cellular membraneous body of a silvery white colour. As the tree or root advances in age and the timber is perfected, the pith gradually loses its original spongy texture, the cells of which it is composed becoming more and more compressed until all appearance of it is lost in the wood, excepting that the concentric circle which it occupied appears whiter than the other annual layers. But although the pith thus disappears in the old, it still continues in progress with the young wood of the root, stem, or branches; and the periodical fibres or radicles of the former, and the buds or embryo branches of the latter, will, on examination, be found to originate from it. When a branch is pruned off close to a stem, wherein, from age, the pith has disappeared for some distance above and altogether from below the origin of the amputated branch, no reproduction of shoots takes place in whatever season the pruning may be performed, but should a portion of the branch be left to the stem, from that buds and shoots will spring. It also happens that when a branch is pruned off close to a young healthy stem containing perfect and active pith, before or shortly after the completion of the midsummer growth, which usually takes place before the end of July, no reproduction of shoots follows the operation, but the efforts of the vital functions of the plant appear to be wholly directed to cover the wound with fresh bark. Should the pruning, however, be performed in spring before or shortly after the expansion of the leaves, or after their fall in autumn, a reproduction of buds and shoots ensues, and a slower progress in the formation of new bark is apparent.

The presence of leaves is essential to the growth of buds and branches, and consequently to that of the pith in these and in the roots; but the leaves are not otherwise necessary to the formation and growth of the fibres or radicles of the root, as these are produced in abundance when the plant or tree is leafless, and even during winter when the ground is covered with frost and snow, the reservoir of nourishment in the *pith* being probably sufficient for that purpose.

From these facts and others which might be brought forward, it is clear that the uses of the pith in the formation of buds in the branches of the tree, and of fibres or radicles in the root, and in the support of these during the first stages of growth, are analogous to the important functions of the seed leaves in the first stages of growth of the seedling plant. The pith of a radicle or fibre may readily be traced into that of the root, and the same is precisely the case in a branch with relation to the stem of the tree. The respective uses of these organs are only for the first and early stages of growth, and, after that, they may be lost without any apparent injury to the further progress of the parts in question: the cotyledons dry up and fall away as the healthy progress of the roots and leaves advances, and the pith disappears, or its identity is lost in the wood, as that part of the structure which surrounds it approximates to maturity.*

The *wood* stands next in order to the pith, it is formed of indurated vegetable fibre, and occupies the space between the pith and the bark; it constitutes the bulk and strength of the subject. The yearly growth or increase of the wood is defined by circular lines or concentric layers clear to common observation in a transverse section of any root, branch, or stem. The discriminating characters of the wood being more obvious in the stem, than in the root or rootlets, we shall consider it more particularly when mentioning the stem.

The *bark* covers the wood in every part of the tree, and is the most important organ of vegetable life, for the pith may be lessened, the wood may be partially or even wholly taken away, and, the leaves may be stripped off, and yet the tree may recover, but when deprived of its bark, the root, stem, or branch of a tree dies. It is therefore of the greatest importance to the practical planter, that the bark of the roots and of the exposed system of his plants should be preserved free from the slightest injury.

The bark when divided horizontally shews three distinct parts, the liber, or inner bark, which lies next to the wood; the cellular tissue, or parenchyma, which is distinguished in the bark of the exposed system of the plant by its fine green colour, but which is colourless in the bark of the root; and, lastly, the epidermis, or outer bark, which is the universal covering of every part of a tree.

On young shoots and stems the epidermis appears membraneous, or as a thin transparent membrane without vessels; but late researches, aided by powerful glasses, have shewn that it is partially furnished with minute retiform vessels, particularly in the leaves.

When casually displaced off young shoots it is reproduced with little apparent injury to the part, unless it happen on the annual parts of the tree, as the leaves and flowers. In old stems and branches the epidermis often attains to a considerable thickness, becoming hard, rough, or granulated, as seen in the trunk of elm, oak, and most kinds of forest-trees, and in the trunk of the apricot, pear, &c., among fruit-trees. When in this latter state, the epidermis may be removed without injury, and, in some instances, it has been cleared away from these fruit trees with evident advantage to their general health and fertility.*

The parenchyma is composed of hexagonal cells, containing juice, which in the stems and branches is of a green colour, even when covered by a thick indurated epidermis; but in the root, as before alluded to, the juice of the parenchyma is colourless.

The inner bark consists of cortical layers, constituted of longitudinal fibres or vessels, which are supposed to return the sap from the leaves after their undergoing certain changes by the action of solar light, heat, and air. The medullary rays which pass from the pith to the cellular textures of the inner bark and parenchyma in a horizontal direction, appear to be the medium of a lateral intercommunication of sap and air throughout the entire structure of the tree.*

The green colour of the parenchyma depends on the exposure of its epidermis to light and air; for when a portion of the stem of a tree is excluded from light, as is sometimes done in planting when the tree is placed deeper in the soil than it stood before transplanting, the green colour is destroyed in that part of it which is covered with the soil, and which in course of time assumes the colour of the root; and, if much moisture exists in the soil and the tree be not young, the bark so covered decays, and the tree dies. Should the soil be dry, however, and the plant young, the bark in question is gradually converted into root-bark; during this conversion of the stem-bark to that of the root, the plant advances but little, if any, in growth, but exhibits an unhealthy appearance, by the paleness of its leaves, and the weak growth of shoots. The same effects are in a great degree observable from the opposite error, of planting too shallow, which is when a portion of the root nearest to the stem is left above the ground. This exposed portion of the root-bark in time gains the green colour in its parenchyma; and although no portion of it is ever found to decay, as in the former instance, yet, for a time, the plant makes but little progress in the growth of wood: if a fruit tree, the effect appears to be to increase the formation of fruit buds, and to stimulate the functions of the tree to bear fruit. It may not be devoid of interest to remark here; that this is a more efficacious mode of inducing a free growing though barren fruit-tree to bear fruit, than any of those recommended for that purpose, such as *ringing*, or placing an iron ring round a branch to prevent the annual increase of bark on the space occupied by the ring, cutting the bark in the manner of a circular incision of a branch, dividing the roots, and by reversing the natural direction of the branches. It may be unnecessary to add, that the above facts point out the importance of planting every tree not deeper in the ground, nor farther out of the surface, than the root occupied in the soil previous to transplantation; most essentially when the produce of wood or of timber is the primary object desired.

(To be continued.)

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* A scion grafted on a stock, and a bud separated from its parent shoot and inserted into the *bark* of another tree, may at first sight offer proofs going to invalidate the opinion of the important uses of the pith in the formation of buds and fibres; but before the scion and the bud are taken off, or are in a fit state for the purposes of budding and grafting, the pith of the parent stock has already performed its offices. The important experiments of Mr. Knight on this subject prove that the pith may be removed in part without effecting the general health of the tree, just as the cotyledons may be removed from the young plant after having established its root and stem, with a continuation of pith to originate new buds, or embryo branches and radicles. We often meet with roots, which from severe injuries by mutilation at an advanced age of the tree, or by the injurious effects of a damp ungenial soil at an earlier period of growth, have lost the entire substance of the pith and wood, and present the appearance of a hollow tube, have yet young fibres or radicles issuing from their sides and continued as in roots where the pith and wood is perfect; on examination, however, these young fibres may be traced through the bark into the hollow of the root, demonstrating the origin of the radicle from the pith.

* In 1831 the following trial was made to ascertain the effects of removing the rough, hardened epidermis from the trunk and limbs of a very large and aged Crassane pear tree. The tree was trained horizontally on a west wall, the branches extended twenty feet on each side of the large trunk in the most perfect order. The stem was cleared of the *rough* epidermis entirely, and the branches on one side also were treated in like manner. The branches which extended on the other side of the stem, had only every alternate branch stripped of the rough, hardened epidermis. Previously to this, the tree had for many years ceased to bear fruit, except occasionally one or two at the extremities of the upper branches. The first season after the above operation, the foliage assumed a more healthy appearance on the decorticated branches, and in the course of the second year many fruit buds were formed, which afterwards produced fruit of very good quality. The branches which were suffered to remain with their hardened epidermis, continued barren. Adjoining to this tree was another of the same species, apparently of the like age and of nearly the same dimensions. In this instance every second branch was pruned off near to the stem, and young grafts of the crassane, colmar, brown beurrie, and St. Germain, united to stumps of those branches respectively. These grafts all succeeded so well that in four years from the period of grafting they had nearly attained to the length of the old branches, and produced full crops of fruit of a very superior quality. The old branches, which had purposely been left, remained in the same barren state as before. The branches produced from the grafts were superior at the end of the fifth year, in regard to health and produce, to the decorticated branches; and these last were in a like proportion superior to those branches which were left untouched. These facts go to prove clearly that the thickening and hardening of the epidermis has a very considerable influence on the health and fertility of a tree.

* It is contrary to every known law of the vital power, to suppose that any part of the structure of a living organized body can resist decomposition or decay, if it be cut off from a reciprocal communication with the circulating vital juices.

IMPROVEMENT IN SHEEP.

Lucky Hil Farm, near White Post,
Mr. Smith: *Frederick Co. Va. Oct.* 17, 1831.

If yourself and readers are not already fatigued with continued efforts to impress on the minds of farmers, the importance of improving their breeds of sheep, of whatever kind or denomination, one more will be made with the view of laying a foundation for future usefulness, even to those who are considered more of planters than farmers, who indirectly, if not always immediately, partake of the benefit of improvement, through an operation on their patriotism in a convenient and beneficial exchange of their natural productions, for those of their nearest neighbors; for, although the sentiment "my home, my country, and my brother man," cannot be too liberally inculcated, still our nearest neighbours should have the preference in friendly and commercial exchanges, independent of the interesting circumstances which peculiarly bind us together as a band of brothers. Be assured, sir, that no observations of this kind are intended to have a political bearing, further than to express a hearty co-operation in the promotion of every object essentially relieving us of a dependence on foreign nations, especially where nature and experience has suggested a plain and prosperous course, neither interfering with the rights of those abroad, nor oppressing any of the congregated nations at home. But they are necessarily connected with the design of the writer to discover, by all the means in his power, the kind of wool-bearing animal best adapted to the soils and climates of our wide spread and variegated country; and to recommend their natural adaptation under a belief that the production of wool is one of our prime interests, and will lead through its improvement, to superior comforts, and more general independence. A society was formed some years since, having a national aspect, headed as it was by some great names, for the improvement of wool—it is doubtful whether any serious measures were ever taken by any of them to promote a better, and more general knowledge of it—it is rather presumable that the exciting subjects of the day, having a transitory interest, have put in the back ground one having a permanency of interest not less important in its way than others, which greatly sustain the general fabric of our independence. If in the various countries of Europe, it is thought expedient and necessary in their national institutions to collect, and then to diffuse facts in relation to the history of sheep and wool; why should it be so lightly thought of with us where the demand for wool in its varieties is daily increasing, for the use of our ingenious and enterprising manufacturers, who are not confined to any section of the country, but who are, as they should be, planting their machinery wherever nature and art invites and interest stimulates; and will it not be well to consider and comprehend the fact that its price will be enhanced and regulated by the improving state of our manufactures? If in the island of Great Britain their long experience leads them to discriminate between some twenty different breeds of sheep as adapted to their varying soils, situations, and interests, surely, in our immense territory, the same reasons must operate with increased force and propriety.

An important Convention is to be held in the city of New York, to advance the manufacturing interest. Can they not in the course of their deliberations, suggest some general plan for the improvement of wool in every section of our country, as a part of that American system, which it is expected they will promote through a special attention to the interests of woollen manufactures, having at the same time a kindred regard in all their deliberations to the differing interests of those who think themselves aggrieved by too rigid an application of tariff regulations. I will now, sir, plainly state that the object of this brief appeal principally to sheep breeders, is for the purpose of acquiring every information connected with the subject, which can possess an humble essayist with the materials for embodying a mass of facts, from which an attempt will be made to recommend plans of intermixture for the improvement of our American flocks, and thereby to approximate, as nearly as possible, to that perfection which science may afford to nature, in adapting the animal to the soil and climate, instead of forcing the one or the other to the certain deterioration of one, without any probability of benefit to the other. Out of the numberless facts which are either hidden or revealed by the philosophy of this subject, this broad one may perhaps be more generally known, that the finest woolled sheep, close, and best calculated to protect them against the rigors of the climate, are best adapted to our northern country, while a larger animal, with wool loose, longer, less fine, and a carcase affording better mutton, will on all tolerable grass soils be better adapted to the southern. A medium between the two, or in farmer's style, a cross, would best suit the middle part of the United States, where time will probably prove, when sufficient interest is exerted to make experiments and comparisons, that the race of sheep in that region of country will be superior to those raised either to the north or south of them. If it is a fact, which is believed to be undoubted, that even the locality of some farms in the same general and particular climate, agree much better with the health and constitution of sheep than others, how reasonable, and indeed important, it will be to ascertain what kind of the wool-bearing animal will be best adapted to the great divisions of our much greater country. In order then to obtain the information necessary to carry into effect the preceding suggestions, viz. the theory of adapting sheep in the length, quality, and closeness of their wool, their size and capacity to enlargement for mutton purposes, to the varying soils and climates of our land, the writer must be under obligations to intelligent gentlemen in each of our states; and he would earnestly solicit information pertinent to the subject; and further, not that he means to dictate the manner of communicating to any one who will have the goodness to consider the great value of it, particularly in relation to the farming interest, but merely to suggest some essential points in describing the kind and quality of animals in connection with the soil and culture, viz. their probable origin, progress, and change, if any; their numbers, and general purpose; at what age they are generally slaughtered, and what proportion are marketed as lamb; the price and weight of mutton; quantity and quality of wool shorn; price, and to what adapted; length of staple and general character; what varieties of sheep, &c. &c. A multitude of circumstances might be arrayed to prove the importance of some one undertaking a labor of this kind, which would never have been proposed by the incompetent, though zealous individual, who now presents himself, if to him there had been a probability of some one coming forward well qualified to do justice to the subject. In the mean time (should he ever be so fortunate as to receive the aid of intelligent friends) if any favourable impressions have been made by the testimony exhibited from time to time in the American Farmer, in relation to the Frederick sheep; bred with the view of improving all but the finest wool races of the Saxony or other fine woolled Merino sheep, kept exclusively for wool, or the thorough bred Bakewell or South-down, kept principally for mutton, from the scantiness or coarseness of their fleece—a ram of the Frederick breed would be offered to every State Agricultural Society, or such other authority, in its absence, as would take sufficient interest in its introduction, with no other hope of recompense than the proud satisfaction the honour of acceptance would bestow, and the gratifying anticipation, that a breed of sheep which has cost the labour and observation of near 30 years will be spread over the United States. Already have two of the states manifested their zeal. Every Agricultural Society in his native state, giving the promise of usefulness will confer a favour in sending for a ram. With the most cordial wishes, sir, that the Farmer may be patronised in proportion to its usefulness.

I am, yours, Richard K. Meade.

HORTICULTURE.

(From the Monthly American Journal of Geology, &c.)

On the Acclimating Principle of Plants.

It is nature's plan, that nothing should remain fixed and stationary. She exists by motion, and manifests herself through endless changes: even death and decomposition are her pioneers, to prepare the way for life and existence. The very rocks and minerals (unorganised matter,) are changed by the action of the elements, form new affinities, and yield to the circumstances of moisture and heat, with which they may be surrounded. Animals exhibit still more changes; they possess powers of developement, and the means of continuation of kind. Endowed with locomotion, they can change their climate and habitation: with a natural pliancy of constitution, they can accommodate themselves to the quality of their food, and character of the country upon which they may be thrown, and appear beautiful or deformed accordingly as they may be acted on by circumstances. Many of them can bear the most violent contrasts of heat and cold, and adapt themselves to many climates.

Vegetables too, are organized, have their growth and decay, and the powers of reproduction. Beyond this we allow them but few capacities; no locomotive powers, none of the sensibilities common to animals, nor that pliancy which can accommodate itself to circumstances. They are the fixtures of nature, with but little latitude in which to flourish, and but little diversity of soil from which to derive nutriment. The object of this paper is to enlarge their sphere, and to show that they possess more power to change their climates, and capacity to bear the contrasts of heat and cold, than we have generally ascribed to them; to illustrate it with many instances where they have actually adapted their growth and habits to a great extent of country, and diversity of latitude, and to urge agriculturists to make more efforts to vary their culture.

Plants have *directly* no locomotive powers, but *indirectly* they have in a great degree the faculty of changing their places, and, consequently, their climate. The embryo germ wrapped in a kernel, or seed, is virtually a plant, ready to germinate when thrown upon its parent earth, and affected with heat and moisture. It is in a most portable shape, and can be transported with ease to an unlimited distance. Nature in many instances superadds to seeds, wings, down, feathers, and chaff, by which they become buoyant, and are carried by the winds of heaven, by the storms that sweep the forest, and by the streams, and currents of rivers, and the ocean, to an immense distance, and through many degrees of latitude! They become finally deposited in some genial soil, and at one remove, or through a succession, they occupy extensive regions. Nature manifests her great care of the embryo, by coating some of her seeds with shells, which protect them from the attacks of insects, and the action of the elements; others have bitter, narcotic, or poisonous qualities, which forbid animals eating them; and many are filled with oily, or resinous matter, which resist for ages, and even centuries, the action of the elements, unless acted upon by the proper degree of heat and moisture. By such qualities they endure, and await a suitable time and conveyance to their destined place, in order to extend and vary their families.

Birds also convey the seeds of plants in their crops over a wide extent, before they become triturated and digested; and when these winged carriers die, or decay, from accident or age, the seeds are deposited, and take root in some distant land. Animals also convey them in their stomachs to a considerable distance, and pass them uninjured by the powers of digestion.

Man, more provident that all, to whom plants are necessary, whose support, whose comforts, and whose pleasures connect him with them, carries their choice seeds, slips, and scions, far and wide. His interests foster their growth, his attentions enrich their products, and his skill and science preserve their existence, and adapt them to their new condition. In an improved community, man's wants multiply: he has occasion for the more varied and rich fruits; more abundant and luxurious clothing, and furniture of vegetable growth; odours to regale his senses, vegetable flavors to pamper his appetites, and all the medicinal plants to heal his various diseases, and invigorate his shattered constitution. He attaches himself to agriculture and horticulture: plants become his companions, he carries a creative resource into those departments, and by his attentions, forms new varieties and excellences, unknown to the wild state of vegetable existence. Such are the means nature has provided for the propagation and extension of plants; such are the indirect locomotive powers they possess. We must no longer, therefore, consider vegetables such inert and sluggish beings.

We will now treat plants as having a kind of locomotive existence. We know that they are very perfectly organized, have sensibility, and sexual intercourse. We know that they have lungs, by which they breathe, and are connected with the air. We know by abundant experience, how easily they are affected by the elements, by heat and cold, moisture and drought. We know how radically soil affects their productiveness, how immediately they are stinted or stimulated by the nature of the extraneous circumstances with which they are surrounded. Beings therefore, that have such perfect organization, that although they are fixed in their places, are deeply changed by every shower, and every breeze, and every stroke of the cultivator—beings, so necessary to the wants, and very existence of animated nature—should possess, in a high degree, the faculty of changing their climate, and of accommodating themselves to circumstances, and the strong contrasts of seasons. Nature else would be wanting in her usual foresight, and in her adaptatation of one thing to another.

If an animal is carried by accident, or its own wanderings, to a country or climate that is not congenial to its nature, it can and does make use of its locomotive powers, to regain one that is more suitable to it. This happens every day. Thousands of birds and fish, and other animals, migrate regularly, to avoid even the different seasons of the same year, and could not, with all their versatility of constitution, exist without it. We may infer, then, that plants, which, after having rooted themselves, cannot migrate at all, should be endowed with faculties to bear all the changes of the seasons, and even of climate, in the same dull place of their existence. *They are so endowed,* and can often bear more changes, and support more disasters of storms and ravages of insects, than animals; and often continue to flourish under violent and sudden changes.

Human care, and the providences of nature, have given to many plants a great extent of climate and latitude, an enlarged growth, and an increased and improved product. Let us bring together such instances as are within the knowledge of all, and which ought to stimulate our cultivators to greater efforts.

The valley of the Euphrates was doubtless the native region of all those fine and delicious fruits which enrich our orchards, and enter so largely into the luxury of living. We thence derived all the succulent and nutritious vegetables that go so far to support life; and even the farinaceous grains appertain to the same region. The cereal productions began in that same valley to be the staff of life.

Our corn, our fruit, our vegetables, our roots, and oil, have all travelled with man from Mesopotamia up to latitude 60°, and even farther, in favorable situations. The cares of man have made up for the want of climate, and his cultivation atoned for this alienation from their native spot. The Scandinavians of Europe, the Canadians of North America, and the Samoides of Asia, are now enjoying plants which care and cultivation have naturalized in their bleak climes. Melons and peaches, with many of the more tender plants and fruits, once almost tropical, have reached the 45th degree of latitude in perfection, and are found even in 50°. Rice has travelled from the tropics to 36°, and that of North Carolina now promises to be better than that of more southern countries. The grape has reached 50°, and produces good wine and fruit in Hungary and Germany. The orange, lemon, and sugar-cane, strictly tropical, grow well in Florida, and up to 31½°, in Louisiana, and the fruit of the former much larger and better than under the equator.

Annual plants grown for roots, and vegetables, and grain, go still farther north in proportion, than the trees and shrubs, because their whole growth is matured in one summer; and we know that the development of vegetation is much quicker when spring does open in countries far to the north, than in the tropics. In Lapland and on Hudson's Bay, the full leaf is unfolded in one or two weeks, when spring begins, although it requires six or eight weeks in the south. Nature makes up in despatch for the want of length in her seasons, and this enables us to cultivate the annual plants very far to the north, in full perfection. The beans, pumpkins, potatoes, peas, cabbages, lettuce, celery, beets, turnips, and thousands of others, seem to disregard climate, and grow in any region or latitude where man plants and cherishes them. The fig is becoming common in France; the banana, pineapple, and many other plants, have crossed the line of the tropics, and thousands of the plants valuable for food, clothing, and medicine, and such as are cultivated for their beauty, fragrance, or timber, are extending their climates, and promise much comfort and resource to man. Plants lately introduced, whose cultivation has not run through many ages or years, have acquired but little latitude in their growth, and show but little capacity to bear various climates, because time has not yet habituated them to such changes, and human cares have not imparted to them new habits and new powers.

Nothing can be effected by suddenness in *acclimating* plants; too quick a transition would shock them; it must be a very gradual process, embracing many years, and many removals. The complete success that has attended the plants first named, the earliest companions of man, proves this. In the more recent plants success is exactly in proportion to the length of time that a plant has been in a train of experimental culture.

The most striking method of testing the effect of climate on plants, is to carry suddenly back to the south, such as have been extended far, and become habituated to a northern climate. Such plants have so much vigour, and the habit of a quick and rapid growth so firmly fixed on them. by a long residence in the north, that when suddenly taken to the south, although the season be long and ample, they continue, from habit, to grow and mature quick, and obtain the name of rare-ripe; because they do not take half of the time to mature, that those of the same family require, which have never been so changed. Gardeners give us early corn, peas, fruit, and turnips, by getting seed from places far to the north; and cotton growers renew the vigour of the plant by getting the most northern seed. This practice is common in the case of most plants, and is founded on the supposition that plants do, and can acquire habits.

The fact supported in the first number of the American Journal of Geology and Natural Science, "that plants are most productive near the northern limit in which they will grow," that they bear more seed or fruit, and have more vigour of constitution, offers much encouragement to agriculturists. This proves that it is not a meagre, stinted existence, devoid of profit or productiveness, that we give to plants, by pushing their culture far north, but a strong and healthful growth, one that repays the labour and attention, by a greater product than belongs to more southern situations.

Every view that we can take of this interesting subject, every fact within our knowledge, whether drawn from the actual state of cultivation, or from physiological investigations into the habits, nature, and construction of plants, goes to show that plants do become acclimated, both in the natural and artificial way, to a great extent. Enough has been witnessed to prove that plants have a physical conformation, that does accommodate itself to circumstances, and have capacities more extensive than are generally ascribed to them: enough has been realized to encourage farther efforts, and to give us hopes of much future benefit.

In this enlightened age, where invention in the arts and mechanical philosophy, is changing the whole order of our social economy, where new comforts and resources, unknown to our fathers, are daily developed, and, as it were, created; in this age, where labour-saving machinery is redoubling the productions of the arts, almost exempting man from in-door exertion, and cheapening all the elegancies of clothing, furniture, buildings, and books, until luxuries are common to rich and poor, and education within the reach of all, why should not agriculture awaken, put forth its energies, and partake of that spirit of improvement that is working its magic in all other departments? Why does it not avail itself of that knowledge of the nature of the soil, which chemistry gives? those tabular statements of the weather and climates, which naturalists furnish? those philosophical investigations into the nature and habits of plants, which have been presented? and that labour-saving spirit that seems to know no limits in other branches of business? Why should all our capital improvements fly the open fields, where culture exists, and be realized only in cabinets and manufactories?—Agriculture follows the old dull routine, and its products lumber on to market in heavy carts, whilst all other branches move on, aided by a thousand inventions, with ease and despatch. That field, whence our food is derived, and on which our very existence depends, lies neglected, whilst we cultivate luxuries to a morbid excess. Every thing is cheapened but human food; every thing becomes annually more attainable, but the necessaries of the table. If this disproportion between the arts and agriculture continues to advance, we are destined to live in a sort of splendid pauperism: enjoying the luxuries of fine houses and furniture, we shall enjoy every thing to satiety but bread. W.

(From the Gardener's Magazine.)

ON RAISING AN EARLY CROP OF PEAS, AS PRACTISED IN A GARDEN AT CHICHESTER.

Sir,—Mr. Main's letter in vol. VI. page 555, has induced me to communicate my method for raising an early crop of peas, which I have practised for the last twelve years with perfect success, and which will I think, be found on trial decidedly superior both to Mr. Main's mode, and to the old one of transplanting peas, so well known to the gardeners in the neighborhood of London. My method is this:

In the first or second week in November, I select six dozen pots of the 16 size, and fill them within 2 inches of the top with light rich mould. I then sow all over the surface with the early frame peas, but not so thick as to touch each other. I make a little better than a quart sow the whole. The pots are then filled up with the same mould, and placed in a cool frame or vinery, protected from frost and mice. In the first week of March, (in England) they will be about 6 inches high and the pots well filled with roots. Having made choice of a warm spot on a south border, they are now transplanted by digging a hole sufficiently large to receive the contents of each pot; care being taken not to disturb the roots, but to preserve the balls entire. They are planted in rows 4 feet apart, and 2 feet in the rows, in the alternate manner or that which some gardeners term "breaking the lines." If the nights should prove frosty, I cover each tuft with a flower pot, and take it off every morning, which prevents them from receiving the least check. At the latter end of the month, the pots are taken away and the peas are sticked, each tuft separately, and inclining a little outwards at top, to allow the plants plenty of room to spread. This method is quite applicable to all dwarf growing peas, which will never be found too thick: the air having a free circulation round each tuft, they begin bearing nearer the ground than those grown in the usual way and in parallel lines, and I find them bear much better. Peas are in general sown too thickly in the drills, and by that means they are drawn up so weak, that they seldom produce any pods till arrived at their full growth, and then only near the top.

From the 1st to the 10th of May, I generally gather my first dish of green peas; and I find the above number of pots will supply a family, upon an average, with three dishes of green peas per week, till the first or second week in June.

The advantage of this method will, I think, be obvious to your readers; by it the plants receive no check in the transplanting; whereas in the common practice of transplanting they receive a severe check, from which they do not recover in less than a fortnight, and which of course may be considered a fortnight lost at this season of the year, nor indeed can it be expected that they will ever grow so fine as when they receive no check. C. V. R.

Chichester, Jan. 1, 1831.

(From the Genesee Farmer.)

CHERRIES ON PLUM STOCKS.

I have said in my note, written in answer to the request of *A Young Farmer*, "I have never seen the plum tree growing on a cherry stock, nor a cherry on a plum stock." This was literally true; but had I been asked if fair experiments had been made to ascertain whether it would *take* or not, I could only have given *Coxe* as an authority that they would not *take*. He says "the plum and cherry will not take on each other." P. 240. On this point he was mistaken, although it is most probable that he derived the notion from some unsuccessful attempts.

A subscriber to the Genesee Farmer, (I. J. of Venice) mentioned a plum stock on which a cherry had been successfully budded or grafted. I repaired to the spot, and found a limb of the common heart cherry about 6 feet in length with several lateral branches, 3 inches in diameter at its junction, and in a healthy state. It was set about six feet from the ground on the common domestic plum tree, and the limbs of the latter form a part of the top. It has outgrown the stock.

When cherry stocks are wanting, it is therefore certain that we may resort to the plum tree; but unless the grafts are set at the ground, the practice is not to be recommended. D. T.

(From the Genesee Farmer.)

DOMESTIC WINE.

Sir,—I am gratified to find that the sample of wine I sent you was approved by yourself and friends—it was made as follows. The ripe grapes were picked from the stems and crushed, then measured, and the same quantity of water was added. The mixture was suffered to ferment in a cask, of which the head was taken out, for four days. It was then strained, and to the juice which was about 27 galls. was added 50 lbs, of Muscovado sugar, which was well stirred to dissolve it. The liquor was then put into a cask of 26 galls. which was kept constantly filled up to the bung; when the violence of the fermentation was over, the bung was put over the hole, but not driven in; some time afterwards it was stopped close, and so remained till the following March, when it was fined with white of eggs, and one gallon cogniac brandy was added. It was bottled off when 10 months old.

I am, sir, your obd't serv't,

A Groveland Farmer.

RURAL ECONOMY.

CIDER.

To Bottle Cider.—To fine and improve the flavor of one hogshead, take a gallon of good French brandy, with half an ounce of cochineal, one pound of allum, and three pounds of sugar candy; bruise them all well in a mortar, and infuse them in the brandy for a day or two; then mix the whole with your cider, and stop it close for five or six months, after which, if fine, bottle it off. The brandy will prevent the bottles from bursting.

To restore Sour Cider.—If cider gets sour, mix a quart of honey with a quart of brandy or pure spirits, to which add a little salt of tartar, all mixed together, and put into the cask of cider.

To refine and purify Cider.—When the juice of apples has not been well purified, it soon corrupts: the dregs which remain mixed with the liquor, being small pieces of the apples which give the cider an unpleasant rotten taste. In order to purify it, use isinglass finings; and to prevent the cider from growing sour, put a little mustard seed in it.

To cure Cider which is pricked.—To prevent cider from becoming pricked, or to cure when it is so, put a little pearl-ash or other mild alkali into the cask. A lump of chalk, broken in pieces, and thrown in, is also very good. Salt of tartar, when the cider is about to be used, is also recommended.

To refine Cider and give it a fine Amber color.—Take the whites of six eggs, with a handful of fine beach sand washed clean; stir them well together, then boil a quart of molasses down to a candy, and cool it by pouring in cider, and put it together with the eggs and sand into a barrel of cider, and mix the whole well together. When thus managed, it will keep for many years. Molasses alone will also refine cider, and give it a higher color, but to prevent the molasses from causing the cider to prick, let an equal quantity of brandy be put in with it.—Skimmed milk with some lime slaked in it and mixed with it, or with the white of eggs with the shells broken in, is also good for clarifying cider, and all other liquors, when with them; a piece of fresh bloody beef cut into small pieces, and put into the cask, will also refine the liquor, and serve it for to feed on.—*N. E. Farmer.*

(From the New York Farmer.)

Different Varieties of Poultry.

Mr. Fleet,—Encouraged by your repeated invitations to your subscribers to contribute to the general stock of information, by stating their practical knowledge of rural economy—I submit to you the following remarks, if they be of sufficient worth to fill a vacant corner in your very useful repository. Perhaps it may be necessary to state, that I have been for many years intimately acquainted with the art and mystery of breeding and rearing of game fowls, as well as most other varieties, and at some periods in very large quantities, and as each variety has its peculiar qualities, so some are better calculated for particular situations and purposes than others. This truism would seem absurd here, did I not know that generally, farmers and others who keep fowls, at first gain their stock by a purchase of some half a dozen hens and a cock at market, without any selection, or choice of more importance than color. At some farms I have visited, so little attention has been paid to this object that a sufficient number of eggs and poultry for home consumption have not been raised, now as the most inferior fowl requires the same quantity and quality of food as the superior—I cannot see why our markets may not as well be supplied with varieties of superior breeds, as well as with the present diminutive and unprofitable class. Frst, then to those who rear them for the table, I would recommend the large varieties of the Canton or Malay breed; they attain to a great size, frequently weighing 10 or 12 lbs., the former are generally the largest, and when true bred, are yellow stiriated with brown. They are but indifferent as layers, and set unsteady. These gigantic fowls are sold as high as $2 the pair. As layers, I know none equal to the Poland fowls; they are excellent, and are sometimes called in Europe everlasting layers. They are very scarce here, and will readily fetch $2 a pair in the N. Y. markets. They are tolerably hardy, very peaceable, and their plumage must be a shining black with a large white top-knot and a king David's crown on the head—there is a variety perfectly white, but I do not think it the true breed, or equally good. The Darking fowl is an imported English breed, and in size nearly equals the Malay; they are good layers and good nurses, they have often five toes on each foot: their original plumage is clear white, capacious body and short legs. Those of this species are usually preferred for capons. The Dominique or common dunghill fowl, from its innumerable crosses, cannot be depended upon, some will be excellent layers, others useless either for the nest or table. They are the smallest variety and are to be seen every where and of every color. The Bantam, an Indian variety, extremely small, valued as a toy; they lay well, their flesh is extremely delicate, and from their small size may personate a chicken, when others are not to be procured for the table; they are of all colors, but those the most variegated, or perfectly white are the most esteemed; the smooth-legged are preferable; they are less liable to colds from the wet and mud continually clogging in the feathers around their feet; while setting also, the feather-legg'd are apt to draw out the eggs with them on leaving their nest. The game fowls I purposely omit; though extremely beautiful they are not to be recommended; if true bred, their quarelsome disposition counterbalances every thing. I have had whole broods stone blind; they commence fighting almost as soon as out of the shell: mine from their good feeding and hot nature have laid all through the winter. A good supply of clean water is absolutely necessary, and barley or cracked corn mixed with one quarter sea sand, is their best food: dry and warm shelter in winter, if you wish for eggs either in summer or winter. Ten or twelve hens may be allowed to one rooster.

I may offer you a drawing of some variety of fancy pigeons and rabbits, with a few remarks when I have sufficient leisure to complete them.

New Jersey, Oct. 1831. D. F. A.

APPLE SAUCE.

At this season of the year it is customary for our good housewives to prepare a barrel of apple sauce, for the use of the family. There is nothing novel in this, and yet, upon examining the article as it comes to this market, and as we see it at different tables, we find a very great difference in quality. This does not arise altogether from the difference of the expense of making it, nor from the superiority of the fruit from which it is made, but from the superior manner in which the articles of which it is composed are put together. There are some house-keepers who exert themselves to do all their work in the best manner, even down to the minutest operation, and are always pleased with any improvement in their domestic concerns, while others distrust the very name of improvement, and are content to do all their work as they were taught by their mothers or grandmothers, and look upon any attempt to introduce alterations into their domestic concerns as treason against their umpire. Having learned the process by which some of the best housekeepors in our acquaintance prepare the above, we give it for the benefit of the whole. The best fruit for making apple sauce is sweet apples of good size; let them be pared and quartered as for drying, and spread until they have become of a brown color quite through, or are what might be called two thirds dry; put them in a brass or copper kettle, and pour over them new cider from the press sufficient to cover them. Let them hang over a gentle fire, and simmer for a couple of hours, when they may be taken off and carefully put in the cask where they are to remain. If a few quinces are added, the flavor is much improved. Sauce prepared by the above method, is altogether preferable to that prepared with boiled cider, which invariably contracts a bad flavor from the vessel in which it is boiled; and if the apples are added in their green state, or as soon as cut, they boil into a complete *jam;* but if dried, they retain their shape and flavor, and by drying their juices are so much concentrated, that the addition of sufficient cider for boiling them, does not reduce them below what they would be if green apples were done in cider which had been reduced one half by evaporation. Those who prepare this article for market, will do well to follow the above directions, as they will be sure to command one quarter more in price, and a more ready sale.—*Genesee Farmer.*

PRESERVATION OF ROOTS.

Previous to the commencement of severe frosts you should take up with as little injury as possible the roots of your turnips, carrots, parsnips, beets, &c. &c., and they may be preserved, according to McMahon, as follows: "on the surface of a very dry spot of ground, in a well sheltered situation, lay a stratum of sand two inches thick, and on this a layer of either sort, covering them with another layer of sand, (the drier the better) and so continue layer above layer of sand and roots till all are laid in, giving the whole on every side a roof-like slope; then cover this heap or ridge all over with about two inches of sand, over which lay a good coat of drawn straw up and down, as if thatching a house, in order to carry off wet, and prevent its entering the roots; then dig a wide trench round the heap and cover the straw with the earth so dug up, to a depth sufficient to preserve the roots effectually from frost. An opening may be made on the south side of this heap, and completely covered with bundles of straw, so as to have access to the roots at all times when wanted either for sale or use.

Some people lay straw or hay between the layers and roots, and immediately on the top of them; this I do not approve of, as the straw or hay will become damp or mouldy, and very often occasion the roots to rot, while the sand would preserve them sweet and sound.

All these roots may be preserved in like manner in a cellar; but in such a place they are subject to vegetate and become stringy earlier in spring. The only advantage of this method is, that in the cellar they may be had when wanted more conveniently during winter, than out of the field or garden or from heaps.

"*Note.* All the above roots will preserve better in sand than in common earth; but when the former cannot be had, the sandiest earth you can procure must be used."

MISCELLANEOUS.

(From the Boston Daily Advertiser.)

DUTIES ON SUGAR.

The question whether the duty on sugar, of three cents per pound, ought to be reduced, will soon present itself again to Congress, and it is proper that the public should form a correct opinion on the subject. As the revenue arising from this source will not any longer be required by the treasury, or at least only for a short time; this duty, which was originally imposed for revenue, if it be continued, will assume the character of a protective one. As it is for the direct interest of the planters of Louisiana, that this duty should be continued, increasing as it does the price of their sugar the whole amount of the duty, it is natural they should be alarmed at the proposal to reduce it, and protest against the measure. It was an ingenious device to apply to the planters themselves exclusively for such information as would be necessary to an enlightened and impartial decision. An opponent to the reduction of the duty might feel confident that the planters would not make so frank a confession of excessive profits, as would induce Congress to reduce them. On the contrary, it would not be uncandid to presume that they would make a dismal representation of their condition, and deprecate the slightest diminution of this duty as productive of their ruin. Such representations have in fact been made. The House of Representatives having on the 25th Jan. 1830, requested the Secretary of the Treasury to lay before them "a well digested manual containing the best practical information on the cultivation of the sugar cane, and the fabrication and refinement of sugar, including the most modern improvements," he accordingly, last January, reported several communications which he received from the planters, in answer to a circular, containing twelve interrogatories. They were published by Congress, and form a pamphlet of 60 pages. The communications received were from the Central Committee of the sugar planters of the state of Louisiana, the sugar planters of the parish of St. James, the agricultural society of Baton Rouge, J. S. Johnson, Esq. T. Henderson, and T. Spaulding. They give in few words, the common and familiar information on the origin of the sugar cane, "its several varieties, and relative productiveness of each." To the question relative to the latest improvements in the manufacture, the answer of all is equivalent to that of the central committee; "the ancient method is the only one in use. Some planters are engaged in perfecting it." The eighth and ninth interrogatories relate to the average quantity of sugar from a given quantity of land; the number of negroes required to cultivate it, and the estimated expense of making a given quantity of sugar and preparing it for market. The answers to these, are the most important to the present inquiry. In the subsequent remarks, the writer will rely on such facts only as are admitted in these documents, in order to prevent any suspicion of misrepresenting them, he will state them in the words employed by the respondents.

Relative to the cost of production, the answers are uniformly the same. The central committee say, p. 7, "The sugar, up to the moment it is delivered to the merchant, costs the sugar planter about 3½ cents per lb. for expenses incurred, without reckoning the interest on his capital. Mr. Johnson says, p. 51, "The present price of sugar at 5½ cents is sustained by a duty of 3 cents per pound. If that duty was removed, foreign sugar would be sold 3 cents less, and ours would fall in the same proportion. That reduction would bring sugar below the actual cost; and therefore it could not be made, even if slaves and lands cost nothing. A reduction of two cents would bring the price to the exact amount of 3½ cents a pound, the precise cost of the sugar, independent of the capital; and therefore would yield nothing to the cultivator." The Baton Rouge planters say, p. 24, "From what has been said, we still infer, that the slightest reduction of the present duty of 3 cents on foreign sugar, would cause the total overthrow of all the fortunes in Louisiana. M. Spaulding goes beyond the others, and asserts, p. 39, "Cannot believe that sugar can be profitably grown in the United States any where, for a less price than six dollars per hundred. The central committee estimate the income of the planter, while sugar has remained at these prices, at only 5 9-100 per cent on his capital, p. 12. The same result is adopted by Mr. Johnson, p. 57.

For the sake of argument, let us suppose these statements to be correct. What is the inference? It is clearly that the business is not worth pursuing, considering either the interest of the planter, or that of the public. The public are obliged by the duty to pay in New Orleans 5½ cents for sugar, which, without the duty, would be worth only 3½ cents. And for whose benefit is this sacrifice? Is it only that the planters may derive a little more than 5 per cent upon their capital? For the central committee of Louisiana have come to this conclusion, as the average profit of 20 sugar plantations during the five preceding years, situate in the parish of Plaquemine, "parish of which the climate is most favorable to the cultivation of the sugar cane, and the soil not inferior in fertility to that of any other part of Louisiana." (7.)

While New Orleans sugar was sold at 5½ cents per pound, brown or Muscovado sugar was sold in the West Indies according to the admission of these documents, at 3 and 3½ cents. (p. 58.) The fact is known to all commercial men that it has been currently sold in Havana, Porto Rico and St. Croix, at 2½ to $3 per 112 pounds; sugar too, of a quality worth from one to two cents per pound more than that of New Orleans.

The great arguments in support of the protective system, or tariff, do not apply to the sugar duties.—The former were laid expressly for protection. It is, therefore, contended, they cannot with good faith be withdrawn, after capital has been invested in reliance upon them. The latter were laid merely for revenue, and it cannot be pretended there is any pledge given that they shall not be withdrawn or diminished. Again, it is alleged by the manufacturers, that their protective duties are laid to support their establishments in their infancy; and that they may be in whole or in part dispensed with, when their establishments become mature. But sugar, it is not pretended, will hereafter be made cheaper than it is at present in Louisiana. Complaint is already made, that their best lands are nearly exhausted. "Even our alluvial lands," says the Baton Rouge report, p. 24, "on the banks of the Mississippi, inferior, perhaps, to none in the world, and planted for twenty years past with cane, have become nearly worn out." Further, the planters do not pretend that they can ever compete with foreign sugar. "It will be asked," says the Baton Rouge report, p. 31, "how the West Indies, after paying the duties, still profit from the exportation of sugar, and that we cannot. The answer is simple.—Placed in the most favorable of climates, their crops throughout the year are uninterrupted; whereas, we have but two months for the rolling of ours. Besides this, other causes militate in their favor." Lastly, the tariff, it is alleged, offers its encouragement and protection equally to all the states and people of the union. But the cultivation of sugar is confined to a small portion of it, and to a limited number of individuals.

Let us now examine the principal argument in favor of the continuance of these duties. It is this; that if they were withdrawn or even reduced the cultivation must stop, and $45,000,000 invested in sugar plantations would be lost. In other words, the whole profit of them consists in the extra price which the duty has given, and their value depends upon the disposition of the people of the United States to give three cents a pound for sugar more than it would be worth, if the duty were removed. Is it not obvious, then, that the gain of the New Orleans planter, is the premium paid by the consumer? and that if this gain were diminished, the amount of such diminution would accrue to his benefit?

It is far from our wish, to cause the ruin of the sugar planter, nor do we believe that the cultivation would cease on the diminution of the duty. We shall endeavor to show that this species of industry may flourish, supported under a less expense than is now paid by the public. But admitting the extravagant supposition, that this cultivation would cease; what pretence is there for saying, that the whole capital would be lost? This capital consists principally in land and negroes. Are these of no value, unless employed in the cultivation of sugar, for which the public are obliged to pay a double price?

The above remarks are made on the ground assumed in these documents, that sugar cannot be made in Louisiana for less than 5½ cents per lb. and yield the planter 5 9-100 per cent. on his capital. Is it credible that he derives only this pittance? If so, the public has been grossly deceived in supposing he has one of the most lucrative employments in the United States. All the accounts of travellers, all the representations of the planters themselves, did, before the proposition to reduce the duties was entertained by congress, present the most brilliant pictures of the prosperity of sugar cultivation. These pictures were just. To prove them so, let us advert to the facts which are admitted in these documents. The Baton Rouge Society say (p. 27,) "it is supposed the capital employed in sugar works did not exceed 20,000,000 five years ago, but has gradually increased to 45,000,000 of dollars." This amazingly progressive increase, it is believed by the planters, will still continue. Mr. Johnson says (p. 57) "It thus appears, that the people of Louisiana, under a confidence in the permanency of the policy of the Government, have embarked their fortunes in the production of an article of extensive use; that they are now in the course of successful experiment, which promises in a few years to supply the consumption of the country. He adds in the same page, "consumption in 1835 will be 175,000, which will probably be supplied in that time from the sugar region." When we remark this eagerness to make investments in sugar plantations and add this additional fact (p. 27,) "that the rate of discount of the banks, with endorsements on mortgage, including charges, amounts to nine per cent., and out of still higher, and the greater part of the capital employed in establishing the new sugar plantations has been borrowed," it is very surprising to be informed, that a plantation will produce less than 6 per cent.!

The Society of Baton Rouge have exhibited calculations. They made two reports; the first in Sept. 1829, the second in Sept. the year following. It will be amusing to look at the figures. In the first, they estimate the value of a plantation of 1200 acres, 400 of which are planted in canes, at $147,200

The land (p. 23) is valued at $50 per acre, and eighty hands at $600. The other objects, it is not necessary to quote.

They state, that each negro cultivates five acres of cane producing each 1000 pounds, which at 5½ cents produces $275 00

125 gallons molasses, at 18 cts per gall. 22 50

Making the gross earnings of each negro $297 50

The annual expenses of such an estate, they say, would be $8330, which divided among the 80 negroes, would be to each $105 50. This sum deducted from the gross earnings, would leave the sum of $192 50 as the nett annual product of the labor of each negro! yielding an interest of 10 3-7 per cent. on the capital of $147,200.

Let the price of slaves in this estimate be compared with that in the other states, and the scale on which this and the other valuations are formed will be conceived. Yet on this extravagant estimate of the capital, the proprietor derived a profit of 10 3-7 per cent.! the same society however in their second report have thought proper to reduce this profit, and say (p. 24.) "From later observations founded upon experience, and from the facts contained in this letter, we declare that the sum of 192 50, stated to be the nett produce of one hand can have reference only to the abundant year of 1828; that according to more recent and exact calculations given above, we are justified in deducting two fifths; and that thus the mean nett produce, on a sugar farm in Louisiana, of one hand for the space of ten, or at least of five or three years, annually amounts at the highest calculation, to $120."—This product would give a little more than 6½ per cent. on the capital. Now it is remarkable that these gentlemen who in reviewing their first report, were so careful to detect the error of their having assumed a very abundant year instead of an average one, have omitted to detect a most gross and glaring one, which has operated materially to diminish the rate of profit. It is this; that in their 1st account, which they pretend overrates their profit, they have allowed only 25 gallons of molasses to a hogshead of sugar. About twice this proportion is stated to be the just one by all the other reports. For instance, in the report of the planters of St. James it is said (p. 16) "from forty to fifty-five gallons of molasses are supposed to flow from each hhd. of good sugar." The revised report of B. Rouge having dispelled as they presume, the suspicion which the public entertained, that the planter was deriving more than six per cent. while he was borrowing money for his investments at 10, goes on to say, p. 22, "nearly all the property in Louisiana has been converted, or is daily becoming transformed into sugar farms, under the sole, firm, and natural belief, that the duty on foreign sugar would be maintained as a just reward and merited encouragement to our fellow-citizens of Louisiana, Georgia, South Carolina, and Florida. The consequence of this transmutation of property in Louisiana will be, that her annual produce alone, even in the most unfavorable year, will more than suffice for the consumption of the U. States. Thus will the price fall of itself to such a degree, that, were the duty not repealed, the introduction of foreign sugar, by tending to the loss of the speculator will be rendered utterly impracticable"—again, "let it (Congress) only trust to the ordinary progress of time, and in a few years the reduced price of sugar, caused by its surplus over its consumption, will be equivalent to a repeal of the duty of three cents!" Which assertion of these gentlemen shall we believe; that Louisiana will so soon be able to supply the U. States at these reduced prices, or that any reduction of the price at present would produce their ruin! If in a few years the planters will be able to reduce the price to a degree equivalent to a reduction of the whole duty, it requires some assurance to say, that they cannot at present cultivate their plantations if the duty be even partially reduced.

In this discussion, I have confined myself strictly to the reports and the language of those interested in the permanence of these duties. Their cause appears to me so untenable that it has not been difficult to find in their own arguments, inadvertent admissions which serve to confute them. It is painful to read these reports, exhibiting as they do, the fallacies which self-interest tempts men to impose upon others, and sometimes even on themselves. But there are points in which the reader may be deceived. It is admitted that sugar land and negroes in Louisiana are exceedingly dear. This is unguardedly stated by the planters, for the purpose of proving that they cannot sell their sugar under 5½ cts. The converse of this admission is beyond dispute. If sugar did not bring a high price beyond the cost of cultivation, plantations would not be so dear. And when a man can get 10 per cent for his money with good security, he will not invest it in a sugar plantation, unless he believes he will derive a much higher interest.

It is said that the circumstances of the planters are embarrassed. This is no doubt true; and considering the usual characters of their engagements, the fact could not be otherwise—nearly half of the plantations in Louisiana, we have seen, have been purchased with borrowed capital within five years. The prices paid have been high according to that of sugar. The fall in the sugar market has disappointed these new purchasers, and prevented them from fulfilling their engagements. But the planters who have paid for their estates, are exceedingly rich and prosperous. The embarrassments of the planters have arisen from their imprudence, in engaging to pay too much both for their estates, and their money borrowed. There was the same spirit of adventure and the same embarrassment when sugar was sold at 18 cents per pound. These evils do not depend upon the actual price of sugar, and no duty can be protective against them.

We never repent of having eaten too little.

THE FARMER.

BALTIMORE, FRIDAY, NOV. 4, 1831.

PERSIAN TOBACCO.—The Editor of the American Farmer has received from George D. Blakely, Esq. a small quantity of Persian tobacco seed, for distribution. Mr. Blakely received this seed from the Agricultural Society of Calcutta, and his object is to effect the introduction of this species into the United States. He describes the Persian tobacco as the finest and highest flavored of all the tobacco of the east, and says it sells at a very extravagant price. The leaf is not large, but is light colored and thin, similar perhaps to the Kitefoot. Any gentleman who will bestow proper attention to it shall have a small parcel of the seed, on condition that he favor us with an account of his success, and a specimen of his tobacco. We can find no account of any variety of tobacco peculiar to Persia, and only of one species native of the east—the *Nicotiana fruticosa* which is a native of China.

☞ A correspondent wishes to be informed through the medium of the American Farmer, whether any thing has been done at raising grain on light sandy soils, manured with marsh mud, plaister of Paris or lime, and if so, he wishes a detail of the most approved modes for each, with the results of the trials. We shall be much obliged by an early attention to the subject by some of our experienced agriculturists.

(From the National Intelligencer.)

BEAT THIS WHO CAN.—The following certificate, from two respectable citizens, shows what the land in this neighborhood is capable of, under good cultivation. We have seen these potatoes; they are of the true Irish breed.

Washington City, Oct. 31, 1831.

We certify that we were present when twelve potatoes (raised on the farm of Mr. Adam Lindsey, near the Navy Yard,) were weighed, and that the same weighed seventeen and one half pounds good weight, averaging nearly one and one-half pound each.

GEO. B. MCKNIGHT,
WM. SPEIDEN.

FOREIGN MARKETS.

LIVERPOOL CORN EXCHANGE.

With a limited import of grain for last Tuesday's market, a fair business was done in wheat, at a decline on old descriptions of 3d. per 70 lbs. while new partially recovered the fall submitted to on the preceding Friday, of 3d to 4d per 70 lbs. American flour was 1s per bbl. lower. In other articles no alteration.

In our corn market yesterday, the general aspect of the wheat trade was by no means improved, for although new and Irish wheats met occasional sales, and continued to claim a preference over all other kind, any advance upon the rates of Tuesday was unattainable, and all descriptions of old, remained nominally the same. Barley and Indian corn were in limited request. Oatmeal and sack flour continue to support our last currency; but American free flour is rather cheaper, the demand having fallen off considerably of late.

Friday Evening, Sept 16:—Within the last two days, there has been a tolerable supply of wheat into this port from Ireland, and about 2000 qrs. from Canada, which from the bulk of the arrivals, having very little grain in from other sources, and no further arrivals of flour from the United States. The proceedings in the corn trade have, between Tuesday and to-day, been chiefly confined to new Irish wheats, which, having been pretty well cleared off in the early part of the week, obtained a small amendment upon our last quotations, whilst for old wheats and all other articles, the demand was extremely languid, without much variation in prices.

At our market this morning, the general aspect of the wheat trade was by no means improved, for, although new Irish wheats met occasional sales, and continued to claim a preference over every other kind, any advance upon the rates of Tuesday was unattainable, and all descriptions of old, remained nominally the same.—Old oats moved off slowly at the rates last quoted; and new samples, although in short supply, barely maintained their previous value.—Indian corn were in limited request; and, without inquiry, at late prices. Malt and beans were rather dearer.—Sack flour continues to support our last currency; but American free flour is rather cheaper, the demand having fallen off considerably of late.

September 20.

The imports during the last week have been to a fair extent, chiefly of new wheat from Ireland, which have been taken pretty freely by the trade at about the price of Tuesday last. This day's was well attended by millers and dealers, who brought new Wheat at about the price of this day week; barrel Flour 1s per barrel, and Oatmeal 6d a 1s per load lower since Tuesday last. In other articles no alteration

Liverpool, *September*. 17

Cotton—The import this week is 7,767 bags, and the sales are extensive, reaching 25,500 bags, (including 2000 bags American taken on speculation, and 650 for export,) at full and steady prices, viz: 420 Sea Islands at 9d to 17½d; 170 stained do at 5d to 9d 10190 Boweds at 4¾d to 6¾d; 4340 New Orleans at 5½d to 7¼d; 5080 Alabamas, &c. at 4½ to 6¼d; 1300 Pernams at 6 7-8d to 8d; 1400 Bahias at 6d to 6¾d; 1553 Maranhams at 6¼d to 7¼d; 700 Egyptians at 73-8d to 7 5-8d, and 300 Surats and Bengals at 3 7-8d to 4½ per lb.

Liverpool Corn Exchange, *Sept*. 20.

The demand for Cotton continues good, but American Cotton is still supplied as low as ever, and plenty offering—but for some time the Brazil Cottons particularly fine, have become scarce, and are now ½ per lb. higher than they were three weeks ago; at present the supply in the market is limited. The sales to-day are 3000 bags, of which one of the sales consisted of 200 Maranhams, at 7¼ a 7 7-8. On Saturday the sales were 3000, and on Monday 3000 bags. There have only been three arrivals in Cotton since Friday.

Prices Current in New York, Oct. 29.

Beeswax, yellow 18 a 19. *Cotton*, New Orleans .10 a .12; Upland, .7½ a .10; Alabama, .8 a 11. *Cotton Bagging*, Hemp, yd. 14½ a 17; Flax 13 a 14½; *Flax*, American, 7 a 8.——*Flaxseed*, 7 bush. clean .—— a.—— *Flour*, N. York, bbl. 5.50 a 5.62; Canal, 5.87 a 6.06; Balt. Hwd. st. 6.00 a ——; Rh'd. city mills 6.12 a —— country, 5.50 a 5.62; Alexand'a, 5.50 a 5.62; Fredericksburg 5.37 a 5.50; Petersg. 5.50 a ——; Rye Flour, 4.25 a 4.37; Indian Meal, per bbl. 3.87 a 4.00; per hhd. 17.25 a 17.50; *Grain*, Wheat, North, 1.12 a ——; Vir. 1.14 a 1.22; Rye, North, 86 a 87; Corn, Yel. Nor. 66 a —; Barley, 1.15 a 1.18; Oats, Sth. and North, .42 a 48; Peas, white, dry, 7 bu. 5. Beans, 7 bu. 7.00 a 8.00.

AGRICULTURAL BOOKS.

The following Agricultural Books are kept constantly for sale at the American Farmer Office.

Loudon's Encylopædia of Plants, containing 10,000 engravings on wood, 1 vol. 8 vo. 1160 pages—*price* $25.

Loudon's Encyclopædia of Agriculture, edition of 1831, 1100 wood cuts—1 vol. 8 vo. 1282 pages—*price* $14.

Loudon's Encyclopædia of Gardening, latest edition, 800 wood engravings, 1 vol. 8 vo. 1234 pages—*price* $12.

Loudon's Hortus Britannicus. A catalogue of all the plants indigenous, cultivated in, or introduced to Britain, 1 vol. 8 vo. 576 pages—*price* $7.50.

The Complete Grazier, or Farmer's and Cattle Breeder's and Dealer's Assistant—*price* $5.

Lorain's Husbandry—*price* $3.50.

Sir Humphrey Davy's Agricultural Chemistry—*price* $2.50.

Every Man his own Farrier, with a Treatise on the Diseases of Dogs—*price* $2 50.

McIntosh's Practical Gardener, in 2 vols. 8 vo. with colored plates—*price* $14.

Mowbray's Practical Treatise, on breeding, rearing and fattening all kinds of domestic poultry, Pheasants, Pigeons, and Rabbits, also the management of Swine, Milch Cows, and Bees, and instructions for private breweries—*price* $2.

Memoirs of the Pennsylvania Agricultural Society—*price* $1.50.

Conversations on Vegetable Physiology, with copperplate engravings—*price* $1.

Thatcher's American Orchardist—*price* $1.50.

Thatcher on Bees—*price* 75 cents.

Dr. Smith's Essay on the Cultivation of Bees—*price* 50 cents.

Our Neighbourhood, or Letters on Horticulture, and Natural Phenomena—*price* $1.

Prince's Treatise on the Vine—*price* $1.50.

——— Pomological Manual—*price* $1.00

Prince on Horticulture—*price* 75 cents.

The Farmer's Accountant and Instructions for Overseers—*price* $1.

Fessenden's New American Gardener—*price* $1.

Mason's Farriery Improved—*price* $1.25.

Hinds' Veterinary Surgeon, with additions by Thomas M. Smith—*price* $1.

Hinds' Groom's Oracle, and Pocket Stable Directory—*price* $1.

Lawrence on the Horse—*price* 75 cents.

TO THE PUBLIC.

Having assured my friends and patrons that should I ever find it necessary to lower the prices of my PLOUGHS, that I would give public notice thereof, that every gentleman may know the price he will be charged before he sends his orders—I therefore submit the following reduced prices to the public, which will be my charge from the date hereof.

Balt. Sept. 17, 1831. J. S. EASTMAN.

No. 6	a small Seed Plough, - -	$4 50
7	also a seed do. - . -	5 00
7	improved and a heavier Plough, -	5 50
7	Bar Share for stony land, - -	6 00
8	one or a small two horse Plough, -	5 50
8	large size improved small 2 horse do. -	6 00
8	Bar Share for rough soil, - -	6 50
9	small 2 horse Plough, called the poney do.	7 00
9	large size heavier Plough improved, -	7 50
9	Bar Share Plough for rough soil, - Sword Coulter for the same $1.50.	8 50
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BALTIMORE PRICES CURRENT.

Baltimore Market.--The prices of flour and grain have declined a trifle since our last. Yesterday the wagon price of Howard street flour from the wagons was $5.12½, with a prospect of remaining stationary. Wheat was selling within the range of our quotations. New corn begins to come in freely, and that which is well dried and sound will readily command 45 cents. Oats have improved materially in consequence of their scarcity. In other produce no material change.

Tobacco.--Seconds, as in quality, 3.00 a 5.00; do. ground leaf, 5.00 a 9.00.--Crop, common, 3.00 a 5.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 10.00; yellow and red, 8.00 a 14.00; yellow, 14.00 a 16.00.—Fine yellow, 16.00 a 20.00.--Virginia, 4.00 a 5.00.—Rappahannock, 3.00 a 4.00——Kentucky, 3.50 a 8.00. The inspections of the week comprise 581 hhds. Md.; 36 hhds Ohio; 205 hhds. Kentucky; and 19 hhds. Virginia—total 841 hhds.

Flour—best white wheat family, $6.75 *a* 7.25; super Howard-st. fresh $5.18¾ *a* 5.25; city mills, fresh 5.00 *a* 5.25; Susq.—— *a* —; Corn Meal bbl. 3 50; Grain, Md red wheat, 1.00 *a* 1.05; white do. 1.10 *a* 1.15, Susq. — *a* —Corn, white, 53 *a* 55--yellow 53 *a* 55—New Corn 40 *a* 45—Rye, 70 *a* 72—Oats, 40 *a* —. Beans, 75 *a* 80--Peas, 65 *a* 70--Clover-seed 5.25 *a* 5.75--Timothy 2.00 *a* 2.50 --Orchard Grass 1.50 *a* 2.00--Tall Meadow Oat Grass 2.00 *a* 2.50--Herd's, 75 *a* 1.00--Lucerne — *a* 37½ lb.—Barley, —Flaxseed 1.35 *a* —Cotton, Va. 8 *a* 9-Lou. 9 *a* 12-Alab. 9 *a*. 11-Tenn. .8½ *a*. 9½; N. Car. 8½ *a*. 9½-Upland 8 *a* 10--Whiskey, hhds. 1st p. 33½ *a* 34; in bbls. 35 *a* 36——Wool, *Washed*, Prime or Saxony Fleece 58 *a* 67; American Full Blood, 50 *a* 58; three quarters do. 44 *a* 50; half do. 38 *a* 44; quarter and common do. 35 *a* 38. *Unwashed*, Prime or Saxony Fleece, 33 *a* 37; American Full Blood, 30 *a* 33; three quarters do. 28 *a* 30; half do. 25 *a* 28; quarter and common, 22 *a* 25——Hemp Russia ton, $255 *a* —; Country, dew-rotted. 5½ *a* 7c. lb. water-rotted, 7 *a* 9c.—Feathers, 36 *a* 38; Plaster Paris, per ton, 4.50 *a* ——, ground, 1.37½ *a*— bbl. Iron, gray pig for foundries per ton 33.00 *a* ——; high pig for forges, per ton, 28.00 *a* 30.00; bar Sus. per ton, 72.50 a 80.00.—Prime Beef on the hoof, 4.25 *a* 4.50—Oak wood, 3.00 *a* 3.25--Hickory, 4.25 *a* 4.50—Pine 2.00 *a* 2.25.

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EDITED BY GIDEON B. SMITH.

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AGRICULTURE.

(From the American Journal of Science and Arts, No. 1. vol. xxi. by Professor Silliman.)

On Some of the Vegetable Materials from which Cordage, Twine and Thread are Made.

BY JAMES MEASE, M. D.

Member of the American Philosophical Society, &c. &c.

The two first vegetables that deserve to be noticed, as being most generally known to the countries in which christianity prevails, are, 1. Hemp, *Cannabis sativa;* 2. Flax, *Linum usitatissimum.* On these, no farther remarks are necessary.

In India, the fibres of several vegetables, and different vegetable productions, are extensively employed for the same purpose; the principal of which, are the following:

1. *Crotalaria juncea, L.;* sana,[*] or sun-plant. This is extensively cultivated throughout India, and also in the island of Sumatra, according to Marsden, to make small ropes and twine. The Rev. Mr. Carey says there are two varieties of this plant, one of which grows ten or twelve feet high: the seeds of another are sown in October, and rises to the height of four or five feet. The first variety is preferred.[†] The reason for this preference, according to Milburn, is, 1st, the difference in the size of the two plants; and 2d, the circumstance of the lateral branches which shoot out from the smaller variety, and which render the fibres very difficult to be separated from the woody part. The mode of separating the fibre is extremely simple, as are all the mechanical operations in India. When the seed vessels have nearly attained their full size, the plants are cut, tied in bundles, and steeped in water for two or three days; then taken out, and the stalks broken about a foot from the lower end by a man standing up to his knees in water, who, holding a few of the stalks with the large ends from him, threshes the water with them, till the broken pieces are separated, and fall off. Then turning them, he takes hold of the fibres which have been freed, and beats the small ends in the same manner, until the fibre is entirely separated from the stalks. A few strokes are sufficient. It is then dried and packed up for market. Dr. Buchanan gives a somewhat different mode of treating the plant to procure the fibre, which it is unnecessary to copy. (Travels, vol. i. p. 227.) The apparatus commonly used in the United States to break and prepare hemp, would answer much better than any Indian mode. The twine made in India from the sun-plant, has long been an article of regular importation into the United States, and is much used when a strong ligature is not required. It is also extensively employed for fishing seines; for although it is weaker when dry, than the twine from flax, yet is stronger than it, when wet; on this account, and being but half the price of flax twine, it is in great demand by the Delaware fishermen, as one of them recently informed me.[‡] The twine-fibre is also the material from which the well known gunny bags are made, as I have long since stated,[*] and has been converted into strong demy, crown and cartridge paper: a specimen of the first I received from the late Dr. Lettsom of London, in the year 1803,[†] and still possess it. The value of the sun-plant induced me to recommend the importation of the seeds for sowing in Louisiana, and I repeat the recommendation. The climate of Florida would be equally congenial to it, and from the greater ease with which its filamentous fibre is separated, than hemp, it would doubtless become a favorite with the cultivators. Paper makers will find it profitable to work up the worn gunny bags and old sun cordage, for coarse strong wrapping paper. The specimen I have of the paper is much stronger than that made from straw.[‡]

Milburn says that the island of Salsette produces two sorts of hemp, one resembling the sun-plant, but preferred thereto, when great strength is required; it is the best substitute for hemp yet known. (Vol. i. p. 283.) The botanical name of the plant yielding it, is not given.

2. *Musa textilis.*—For several years past, a fibrous material under the name Manilla hemp, has been largely imported into the United States, and worked up into glossy white cordage for hawsers and running rigging. Having four years since, accidentally met with a store full of it, I was led to attempt to find out the vegetable that yielded it, but failed to obtain the least information. The mercantile men made no inquiries in the port where they shipped the article, and were satisfied with the good returns derived from bringing it home. I knew it could not be the fibre of the hemp of Europe and North America, having been long familiar with the fact, that neither hemp nor flax are cultivated in any part of India, or the Indian islands, for cordage,[§] but the particular vegetable yielding the fibre, could not be ascertained. Having however been recently consulted on a question arising at the Philadelphia custom house, respecting the nature of some Indian cordage, and a cordage material from the same quarter, I determined to renew my inquiries, and despairing of acquiring any knowledge from men, I resolved to consult every book on India, within my reach. The second work I examined, was "Crawfurd's account of the Indian Archipelago," and the first volume of it relieved me from my ignorance. According to this author, the fibre of Manilla hemp is obtained from the *Musa textilis,*[*] a species of wild banana, growing abundantly in the northern spice islands, and in the Phillippines, particularly in Mindanao. The length of it when imported into the United States, is from six to eight feet. From many inquiries at the proper sources of information, on the qualities of this cordage, I am authorized to say, that it is stronger, more durable, and more elastic than that made from common hemp.

The elasticity of the Manilla hemp cordage is one of its greatest recommendations, and on this account is highly prized by our seamen. On one occasion a few years since, a New York packet ship in the harbor of Liverpool, during a heavy blow, dragged two anchors, and was driving fast towards a pier against which she would have been dashed with great violence, had not the captain ordered a hawser of Manilla hemp to be carried on shore, and made fast. This being done, the progress of the ship was arrested, but it was not until the hawser had been stretched to one half its original diameter, that she was brought up. The master of a Philadelphia packet, who witnessed the scene with great anxiety, determined immediately on his return home, to order a hawser of the same material.[†]

3. *Woody fibre inside of the coco-nut husk.*—The short, woody, and apparently intractable, husky fibres, lining the inside of the husk of the coco-nut, constitute the material which Hindoo ingenuity has long since converted into excellent cordage. They are first soaked in water, until they become soft, (and to effect this, Dr. Buchanan says six months are required,) then beaten to separate the woody substance connecting them, which falls away like saw-dust, leaving only the strings. A commercial friend states, that these are spun by hand into yarns of a foot or more in length, and brought in bulk from the Maldive, Laccadive, and other islands on the Malabar coast, to Calcutta, and there made up by the native workmen. There are two statements on the subject of the state of maturity of the coco-nut, proper for the preparation of the coir fibre. Dr. Buchanan says,[‡] that the rope made from the strings of the husk when the nuts are ripe, is very bad, and that the green nuts yield the best material. People, he says, of the low caste of *Williaruc*, collect those that have been cut for juice, or thrown down by monkies; but another author asserts, that the fibres "can only be procured from the fruit in its greatest maturity."[§] The circumstance of the color of the cordage being precisely that of the inside of the husk of the ripe nut, would seem to sanction this last opinion. It is singular, that the accurate and observant Mr. Marsden should be entirely silent on this point. With respect to the superiority of a coir cable to that of hemp, in salt water, there is but one sentiment among those who have used both. The experienced navigator Forrest says, that the "coir cable gives so much play to a ship riding at anchor, that with a cable of one hundred and twenty fathoms, the ship retires or gives way sometimes half of its length, when opposed to a heavy sea, and instantly shoots ahead again: the coir cable, after being wire-drawn, recovering its size and spring. It is usual for valuable ships leaving the Ganges in August and September, against the south west monsoon, to have a coir cable fresh made, under the eye of the chief officer, for a

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[*] Dr. Francis Buchanan gives two Indian names to this plant, viz. *Janupa*, Travels, vol. i. p. 226, and *Shanapu*, vol. ii. p. 227. Milburn says that the large variety is called *Ghore sunn:* the fibre is called *Jute.* Oriental Commerce, vol. ii. p. 210.

[†] On the Agriculture of Dinajpur. Trans. Asiatic Soc. vol. x. p. 11.

[‡] Dr. Roxburgh gives the results of several hundred experiments, to show the comparative strength of numerous vegetable fibres used in India for cordage and twine, under the following circumstances. 1. In a fresh state; 2. dry; 3. wet with fresh water; 4. tanned; 5. tarred; 6. after one hundred and sixteen days maceration in fresh water. The result was, that tan in general added strength, while tar, although it preserved cordage, diminished its strength; and in no instance was this more clearly evinced, than in the common hemp, (*Cannabis*) cultivated in Bengal. Wetting cords with fresh water, invariably increased their strength greatly. A dry cord of sun-plant sail twine broke with one hundred and forty-eight pounds weight, but required seventy-four pounds more, or a weight of two hundred and twenty-two pounds to break it when wet with fresh water. Thirty-two pounds more were required to break a hempen cord when wet, than to break another cord of the same size when dry.

[*] Domestic Encyclopedia, article "Gunny bag," 1803.

[†] Domestic Encyclopedia, article "Paper," 1803.

[‡] The foreman of a rope walk, in which the fibre of the sun-plant is largely worked up, informed me, that when hackled "closely," for twine or lines, it would not yield more than one half "tier," that is, long hemp. The rest was tow, and only fit for plough lines, halters, bed cords, &c. The "tier" was also full of shaws, and weak. These defects, doubtless, arise in part from the slovenly preparation of the fibre. The brake and hackle would certainly turn it out in a more perfect state, although they could not alter the strength of the fibre.

[§] Hemp and flax have been cultivated in India from the earliest times, for the oil produced from the seeds; but the chief object of attention to the first, is owing to the general use made of the leaves for smoking in pipes, either alone or mixed with tobacco; and for making an intoxicating preparation from them called *bang*, which is smoked with tobacco. In Sumatra, according to Marsden, the same practice prevails, and hemp is there extensively cultivated for this purpose.

[*] Dr. Roxburgh says; that "the species of *Musa*, which we call *Coccinea*, yields what is called Manilla hemp; at least it was sent to me from China as that plant."—Trans. Soc. Arts. Vol. xxiv. p. 153.

[†] He has recently informed me, that had the hawser of the New York packet been made of hemp, it would have parted. The Manilla cordage like that of coir, recovers its elasticity, after being stretched, until considerably worn.

[‡] Vol. ii. p. 50. London, 1807.

[§] Letters annexed to Heyne's Tracts on India, p. 15, 4to. London, 1814. The author, whose name is not given, says he resided twenty years in India.

stand-by. Hempen cables are strong and stubborn, and ships often founder that ride by them, because nothing stretches or gives way; the coir yields and recovers." He says further, that "it is preferable for small cordage for running rigging, as it passes much freer through the blocks than hempen rope, which if wet, becomes hard and does not run free, owing to the tar casing it, by the heat of the climate, and the rope is stubborn, especially after a rain."[*] Other advantages of coir cables, consist in their floating like wood; never rotting in consequence of being soaked in salt water; not exhaling those unpleasant and unwholesome odors which are perceived from hempen cables when wet, and in their being comparatively light and easily managed. But in fresh water, hempen cordage is more durable. Mrs. Graham states, that "the rigging of a country ship of eight hundred tons, in which she made a voyage from India to Ceylon, consisted entirely of coir rope, and that fresh water rots it to such a degree, that the standing rigging was covered with wax cloth and hempen yarn."[†] A commercial friend confirms the statement of this keen and observant female traveller, and says, that when the operation is neatly performed, the cordage intended for the standing rigging is deprived of its elasticity, (technically, "the stretch taken out,") then "served," and finally covered with the Indian dubbing called *dammer*. Thus protected, rigging will last for years. European and American ships hire coir cables when in an Indian port, to save their own. The article (coir) constitutes a grand staple of India, the value of which is considerable.

4. *Agave Americana.*—While I was engaged in examining a coil of Manilla rope, in the course of my inquiries about that article, my attention was drawn to another parcel of glossy white cordage, which I was informed by the ship chandler, had been made from *Sisal hemp*, and was much used. Of the vegetable producing it, and the reason of the specific name attached to the raw material, he knew as little, as respecting the Manilla hemp, which he had been working up for several years. But by continued inquiry, I heard of the merchant who first introduced the article into Philadelphia, and from him I learnt, that having been told by a mariner of the rope made from the prepared fibre in Yucatan, he imported a cargo of it in the year 1825, from Sisal, referring me to my old acquaintance Capt. Patrick Hayes, for further information, he having attended to the process of preparing the article for sale in Yucatan, and seen the plants in the open lot before the Pennsylvania hospital. Upon visiting that institution with Capt. H., and entering the green house, he pointed out the plant, which I immediately recognised as the well known Agave Americana—that eminently useful plant to the people of the countries in which it is a native, and whose distant periods of flowering when removed therefrom, have given rise to a popular error, which will require ages to remove.[‡] According to my informant, the preparation is extremely simple. By means of two sharp corners made by hollowing out the ends of a wooden tool like a flat ruler, the fleshy leaves are slit into two or three longitudinal strips, and the pulpy substance being scraped off, the fibrous material appears, which is then shaken loose, tied in a knot, and when dried in the sun, is put up in bales for exportation.[*] Great quantities are sent to Cuba to make coffee-bags, and since the year 1825, numerous cargoes have been imported into the United States, and worked up into hawsers, running rigging, and small ropes. Much of the late importation, I am informed, has been of a quality far inferior to the early stock. In Yucatan, about Merida, the most beautiful sewing thread is made of the fibre, some of which Capt. Hayes brought home, and used in his family. The coarsely prepared fibre for ropes and hawsers, resembles the Manilla hemp, but is harsher to the touch: this may be owing to the great size of the leaves, and to a careless preparation of them, for the fibre from Hayti is much finer than that from Sisal, and the small ropes made from it are beautiful and glossy.

The plant has a very extensive range in Asia, South America, Mexico, and the West Indies, and wherever found, is applied more or less to the same purposes as hemp or flax. In Yucatan the fibre is called "hennequin:" in other places "pita,"[†] the name by which the thread and twine made of it are also known. In Colombia the prepared fibre is called "coquise," and the name *pita*, given to that of a tree, called *marichi*.[‡] The cordage from the *Agave* plant is said to be liable to mildew, and to lose its pliability after being wet, faults that do not attach to the Manilla rope. It is also thought to be inferior in strength to this last. Hawsers made of it are much less durable than those composed of Manilla hemp.

I was led to the preceding investigations by the following occurrence, to which I have already alluded.

In the autumn of 1829, Mr. F., a merchant of Philadelphia, imported a quantity of "coir cordage," and also a large parcel of the fibre of the "sun-plant" for rope makers; and a question arose on the duties to be charged on each. Mr. F. said that in importing them, he had been influenced by the edition of the tariff law of 1828, republished in that year by two clerks of the custom house, and revised by the late collector, in which the duty on coir rope, is charged at 15 per cent. ad valorem; and the "sun plant" not being mentioned at all, he concluded that the duty would be the same as on the other "non-enumerated articles," viz. 15 per cent. It was however determined to charge the coir at the same rate as that paid by imported hempen cordage, viz. five cents per pound, and Mr. F. accordingly paid that duty. Sometime after, another parcel of coir rope was imported into Boston, and the owners resisting the attempt to class it with foreign hempen cordage, the collector finally assented to their construction of the tariff law. The extra duty, therefore, which had been paid by Mr. F., amounting to seven hundred and seventy-five dollars, was refunded to him. With respect to the sun-plant fibre, the question was, whether it should be charged with the duty of imported hemp, which was fifty dollars per ton, or be classed with the non-enumerated articles, paying an ad valorem duty of 15 per cent. and which, in the case of the sun-plant fibre, would lower the duty to nine dollars and ninety cents per ton. This last sum was finally fixed on. The decision of the Boston collector as to the coir, and that of the Philadelphia collector on the sun fibre, were in strict accordance with justice, propriety and reason; for the framers of the tariff law of 1828, when fixing the high rates on imported cordage and hemp, had alone in view, the hemp of Europe, (*Cannabis sativa,*) and cordage made from it, never dreaming of any other material for cordage than that yielded by this vegetable. The officers of the customs, therefore, might with as much propriety have classed a cargo of Paraguay tea (maté) with some of the varieties of green or black tea of China, and charged the duty accordingly, merely because the daily beverage is prepared for millions of people in South America, from one of these vegetables, and from the others in China, Europe and North America, as to equalize the duties on two articles made from substances so opposite in their natures, as the coco-nut husk strings and the hemp fibre. The same remark is applicable to the hemp and sun-plant. It would have been quite as unreasonable to charge at the same rate, two raw materials, such as hemp and the fibres of the sun-plant, which are the produce of vegetables so different, and from opposite quarters of the globe, for no reason, except that they can be worked up into the same articles, and applied to the same mechanical purposes. In the case of the coir and hemp, however, this equalization subsequently took place; for upon refunding the amount of extra duty paid by Mr. F. an order was issued by the treasury department, to charge in future, the same duties on hemp and coir cordage, viz. five cents per pound, and this duty was actually paid on a quantity a few weeks after. This order cannot be justified by the terms of the tariff law, and must be considered as the result of a forced construction of it, for the reasons just given. Coir cordage, and that from other Indian vegetables, ought to be classed with the sun-plant twine, and with the fibres of the Agave, (Sisal hemp,) until an express law on the subject be passed, to fix their rates of duty.

A discussion on the subject of the twine made from the sun-plant, had taken place at the custom house at Philadelphia, in the year 1808, in consequence of the arrival of a ship from Calcutta, with a quantity of that article on board. By a law then recently passed, hempen cordage was prohibited, and the surveyor of the port being informed of the twine on board of the ship, showed samples of it to several persons, all of whom pronounced it to be made of hemp. He therefore gave his opinion that the law had been contravened, and that the ship had incurred the penalty expressed in it. But on a reference to the collector of the port, he was overruled, for one of the supercargoes, had the foresight to obtain letters from Mr. Wm. Roxburgh, Jr. the superintendent of the botanic garden near Calcutta, and from the Rev. Mr. Carey, to show the nature of the plant from which the twine had been made, and that neither hemp nor flax were ever used in India, as materials for cordage or twine, a fact since frequently confirmed. Although such authorities required no support, yet the supercargo, to increase the chance of a favorable decision on the question, thought proper to consult me, and I referred him for a confirmation of their statements to the articles I had published five years before, (1803,) in the work already mentioned. A gentleman who had resided for ten years in Calcutta, added the weight of his testimony to the same points, and the ship was released from the custom house seals. I annex the letters of Mr. Carey, and Mr. Roxburgh, which the supercargo put into my hands at the time.

5. The most singular vegetable fibre convertible into cordage, is the production of a Sago Palm, first named *Saguerus* by Rumphius,[*] who gives a long

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[*] Voyage from Calcutta to the Mergui Archipelago; introduction, p. vi. London, 1792.

[†] Residence in India, p. 86. Edinburgh, 1812.

[‡] I allude to the idle story of the plant (the popular name of which is the American aloe) flowering only once in an hundred years.—In Mexico they flower every ten years, according to Bullock, p. 282. In the year 1804, an Agave flowered at the Woodlands, the seat of the late Wm. Hamilton, which grew from a sucker of one that flourished thirty-six years before, (1778) at Springetsbury, (Bush-hill) both near Philadelphia.

[*] "The leaves vary from five to eight feet in length, but some considerably exceed these dimensions."—Ward's Mexico, Vol. I. p. 55.—Mr. Bullock measured some ten feet long, fifteen inches wide, and eight inches thick.—Residence in Mexico, p. 71.—In Hayti they seldom exceed five feet in length. Humboldt has given a very interesting account of the various uses to which the plant is applied, in his *Political Essay on the Kingdom* of New Spain. Mr. Ward, in the account of his mission to Mexico, has also stated some of them, and given a fine plate of the plant.

[†] This is its name in Guatimala, according to Dunn, p 241.

[‡] The fibre of this tree is said to be ten or twelve feet long, and finer and more silky than that of the Agave. It is used for sewing half boots and shoes. Notes on Columbia, by Lieut. Bache, U. S. Army, p. 89, 1827.—It is to be regretted that no further account is given of so valuable a tree or its produce, and that no specimen of the fibre has been brought home.

[*] Herbarium Amboynense, vol. i. p. 57, plate 13. It is the *Borassus gomutus* of Loureiro, Flora Cochin Chinensis, p. 618; and *Arenga saccharifera* of Labillardiere, according to Dr. Roxburgh. This last work I

and interesting account of it, and an excellent plate of the tree, showing the mode of growth of the fibre. The common name of the fibre in India is Ejoo. In the island of Sumatra, according to Marsden,* it is called *Anou.* It resembles black horse hair. "Each tree produces six leaves in the year, and each leaf yields ten and a half ounces of the fibre, which makes the annual produce of each tree nearly four pounds. Some of the best trees produce full one pound of the fibres in each leaf. They grow from the base of the footstalks of the leaves, and embrace completely the trunk of the tree. The fibres and leaves are easily removed without injuring the tree."† Crawfurd says "It is used for every purpose of cordage in India, domestic and naval, and is superior in quality, cheapness and durability, to the cordage manufactured from the fibrous husk of the coco-nut." Cables made of this unique production, are occasionally brought from India, but not as an article of commerce into the U. States. It is presumed that this was the cordage brought by the ship Ajax a few years since into New York, and called "Palm tree cordage."

6. In Italy, the *Hibiscus roseus, Thore,* has been within a few years, employed for small cordage, by Signor Barbieri, curator of the botanic garden at Milan, who, two years since, sent a specimen of a cord made of it, with some of the seeds of the plant, to "the Philadelphia Society for promoting agriculture," which were distributed. The plant abounds in the marshes of Italy, and grows twelve feet high. It is a perennial, and as it is therefore not liable to the same expense and attention required by common hemp or flax, it may lay claim to some exclusive advantages over these plants. S. Barbieri did not state the comparative advantages of flax and the *Hibiscus roseus,* as to the separation of the fibre, a point by the way, of great consequence. The people of Cumberland Co. New Jersey, have long been in the practice of making ropes and plough lines of the *H. palustris,* the growth of their marshy districts.

7. The *Sida abutilon,* treated as hemp, yields a fibre, from which very excellent ropes are made. It abounds in the United States, particularly in Pennsylvania and Virginia.

8. *Phormium tenax;* New Zealand Flax. We owe the knowledge of this valuable plant to the first voyage of Capt. Cook. All the attempts to cultivate it in Europe and the United States, in the open air, have failed. Cables and ropes formed of it, are said to be not only much lighter, but far stronger than those made from hemp, (*Cannabis,*) viz. in the proportions of 23 5-11 to 16⅓. The missionaries might render an essential service to the objects of their spiritual care in the New Zealand group of islands, by urging them to cultivate extensively this valuable production of their soil. The growth, preparation of the raw material, and its exportation, might be made greatly auxiliary to their civilization, by inducing habits of regular industry, and by furnishing them with the means of procuring every article of clothing, and for domestic use, books, and the various things connected with the arts of civil life, all of which moreover, have hitherto been supplied at the expense of the friends to missions in Europe and the United States.

Philadelphia, December, 1829.

P. S. I send herewith specimens of the fibres of

1. *Crotolaria juncea,* sun-plant of India, the material of Calcutta twine.
2. *Musa textilis,* Manilla hemp.
3. Coir fibre, from the inside of the coco-nut husk.
4. *Agave Americana,* from Tampico and Hayti. Sisal hemp.

Letters on the Sun-Plant of India, referred to in page 274.

Dear Sir,—In reply to your inquiries, concerning the material of which gunnies, twine, &c. are manufactured, and which you say are thought in America, to be manufactured from hemp, I observe that hemp, (*Cannabis,*) is no part of the material used in those goods.

I have written a paper on the state of agriculture in the district of Dinajpor, which is printed in the volume of the Asiatic Society, now in the press, and in it, I have taken some notice of the cultivation of the plants used in the manufacture of gunnies, &c.; but as that volume will not perhaps be published in less than another year, I cannot refer you to it. I therefore observe, that there are several plants indigenous to India, the fibres of which are used for the manufacture of cordage, twine and gunnies, the principal of which are the *Crotalaria juncea,* (called sun by the Hindoos) and two species of *Corchorus,* (Paat or Kosta of the Hindoos.) Several species of the *Hibiscus,* furnish a durable fibre, but are cultivated in too small quantities to be brought to market. *Robinia* or *Millingtonia cannabina,* is used by the natives to make ropes, but is seldom brought to market.

Hemp (*Cannabis*) grows in most places throughout Hindostan; but the Hindoos are ignorant of its uses for cordage, cloth, &c., and only cultivate it in very small quantities, on account of its narcotic qualities. Flax is also cultivated in large quantities for its seed, but the natives know nothing of its use in the manufacture of linen cloth. &c.

The East India Company, have tried to extend the cultivation of hemp (*Cannabis,*) and flax (*Linum,*) but the attempt has not been attended with the desired success. The natives are loth to venture upon the cultivation of a plant (hemp) which has never been tried by them as a crop, or to strip the bark from the feeble stalks of the flax, while they find the cultivation of *Crotalaria* and *Corchorus,* so easy and effectual for cordage, sail cloth, &c. and that of Cotton so proper for cloth.

You may therefore assure yourself, that neither gunnies, twine, rope, nor any other article of Indian manufacture, which is brought to market, is made of hemp (*Cannabis.*) or of flax (*Linum.*)

I am, dear sir, yours very truly,
To Mr. Henry Drinker. Wm. Carey.
Calcutta, July 22, 1807.

Botanic Garden, near Calcutta, July 22, 1807.

Dear Sir,—The principal material of which twine and other sorts of cordage are made in India, besides the coarse bags and canvas, is sun (the fibres of *Crotalaria juncea;*) also Paat is used (the fibres of *Corchorus capsularis,*) and several other substances, all of which are different from hemp, (*Cannabis sativa,*) and flax, (*Linum usitatissimum.*)

Mm. Roxburgh, Jr.
In charge of the Botanic Garden.
To Mr. Drinker.

CULTIVATION OF INDIAN CORN.

Mr. Smith: *La Grange, Oct* 16, 1831.

The modes of cultivation and management of different crops, are perhaps as various as the dispositions and ideas of the cultivators; a few suggestions, notwithstanding, might not be entirely useless to those engaged in the cultivation of Indian corn, so essential in almost every part of the United States. In the first place then, a selection of seed is of more importance than many are aware; such ears should be chosen for that purpose only as ripen early, and mature perfectly, giving the preference always to those stalks which have borne two or more ears the preceeding season: under no circumstances, where it is desired to ensure a full crop, should early planting be neglected; why it is that so many planters defer this, till the very advanced season compels them to turn their attention to it, is a question which will forcibly occur to themselves, when once they have tested the advantages of a contrary practice. The whole course of my experience in agriculture, proves satisfactorily, that early planting has incomparably the advantage of late planting; the young corn may not look so well, when it first puts up, nor grow off so rapidly, still it roots better, stalks better, and will almost always bear more and larger ears, is less subject to the ravages of the cut worm and depredation of birds, ensures a better and earlier *stand,* which, in all crops, is all important, &c. Land which is broken should in all cases be ploughed horizontally; to effect this, you encounter necessarily, some delay in the outset, but afterwards, you can reverse your beds, and plant again in the same way. If your fields are planted alternately in corn and cotton, (the southern system,) beds four feet apart are suited to both crops, the distance in the drill being discretionary, depending on soil and locality, say from 30 to 40 inches apart. In general, there is nothing gained by crowding this crop too much, and crowding it otherwise as you may, never more than one stalk should be left in a place; if as sometimes happens, early corn is cut down by frost, it sustains no injury whatever therefrom, unless the cold has been so intense as to penetrate to, and injure the roots, which rarely happens, when the corn has been properly covered.

After the crop appears above the ground, no time should be lost in running over it with the hoes; this dressing is admissible much earlier than many suppose,—it will, after this, grow more rapidly and vigorously, having the soil about its roots light, level and fine. So soon as the grain rots, and the hirds no longer infest it, the operation of thinning must commence; if the weather is dry, and the tender corn breaks and leaves a bud to vegetate again, a small sharp paddle may be used, and passed beneath the roots of the stalk you wish to take up, leaving, in all cases, the largest and most vigorous plants. In preparing the soil for the reception of this crop, from 3 to 5 furrows may be thrown together, constituting a bed that may be split with a bull tongue or small plough; a careful person may step the required distance and drop the corn to the toes, or a staff, passing through a piece of the required length at the bottom, can be used. This bedding together with breaking the remaining balk, should be done with good double ploughs, running from 6 to 8 and 10 inches deep, depending on depth of soil, and great care should be taken to break the ground *close,* that is, to leave no ridges unbroken between the furrow, so much inert soil, and a barrier to the diffusion of the roots; after this, one timely, deep and close ploughing, will in general, on all new lands ensure an abundant crop, all additional labor being injurious to the crop and time misspent. And any plantation must have been previously mismanaged, if more than two ploughings after halk-breaking, is required. In no case should a furrow be struck in a field of corn, after the first shoots and tassels appear; I have known good crops, with fine season and on rich soil, made after late ploughings, but never yet knew an instance in which the crop was not materially injured by it. When the last ploughing is given, every prudent landholder will provide a sufficiency of the stock or cowpea, to be sown down broadcast preceding the ploughs, say from 3 to 5 pecks per acre. These protect the lands from the intense rays of a summer's sun, prevent it from washing. leave a rich deposit of vine and leaf, do no injury whatever to the growing crop corn, and when matured, which is after early frost, the corn may be gathered, and hogs designed for pork, turned upon the vine,—from several years' experience, I am satisfied, corn itself not excepted, nothing will fatten hogs so soon as the pea; pork fed on these is found little if any inferior to that fattened on corn, though I prefer confining pork hogs in close pens, and feeding them a short time on corn, to give a little more consistency and hardness to the bacon. The pea, in the southern states is decidedly preferable to clover, not

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have not seen. Rumphius says it is found on the coast of Java, about Grissek and Samarang, and in the islands of the Molucca Archipelago. It abounds in Amboyna, p. 59.

[*] History of Sumatra, p. 77.

[†] Roxburgh, Trans. Soc. Arts. Lond. vol. 24. p. 152.

only as it regards the rich deposite which is left by the vine, but because you reap a full harvest of corn from the same ground, the same year, and remedy a vast consumption of grain, and the vine if pulled and used at the proper time, is equal if not superior to clover or any other hay, all stock giving them the preference.

The advantages and necessity of *deep, close* ploughing, cannot be too strongly impressed upon the planter or farmer, it will ensure a good crop when the season is too wet, because the loose soil absorbs much more rain, before sobbing or saturating, and in a dry season, it has greater stores of moisture, does not bake or wash so soon as land which has been murdered by the ploughing with indifferent ploughs, consequently given durability to the land, and in no case will it require more than half the number of ploughings.

Arator.

[The following is a plan of operation formed at the commencement of farming by one of our subscribers, and we publish it for the purpose of recording its results hereafter. We say nothing as to our opinion of of the plan, except that we approve highly of his determination to plough no more land than he can cultivate well. With the original plan before them, the results will hereafter form interesting matter for our readers.]

PLAN OF OPERATIONS.

Montgomery County, near Rockville,
November 1, 1831.

Mr. Smith:

Dear Sir,—I have purchased and settled on 410 acres of poor land, which I suppose would not produce on an average more than five bushels, (if that) of wheat or rye. As I have other business to attend to I cannot farm much—I intend to proceed on the least expensive plan that I can devise to improve my farm. I shall keep the first year but three horses, two good work horses, and perhaps I may get a pair of oxen next spring, a good brood mare about half blooded, to put to the very best horse I can find—my two draft creatures are stout mares, these I intend to put to strong but active studs—by them I shall try to breed strong but active horses for draft. By my half blooded mare which I have yet to purchase, I shall try to raise a breed suitable for the saddle. I have given 100 dollars for an elegant full bred improved Durham Bull calf, of five months old, begotten by Horatio on Phœbe; Horatio is out of Mr. Carroll's Malcom, he is full blood. I have bought 6 fine cows, among which is a full bred Holderness cow, with calf to Horatio, and a half bred Durham heifer with calf also to Horatio. I made out to get 20 Merino ewes, and about 50 common breed—I have this week divided my small flock of ewes, put one half to a full bred Merino buck, the other half of the largest frames and coarsest wool to a full bred buck, which I bought of Dr. Davis of Washington county, the breed is very large, he got them of a Mr. Smith, in some of the lower counties—the name of the breed I forget; on my fine wooled ewes I mean to put a full bred Saxon buck in November 1832; on my large breed, I mean to put a full bred Bakewell buck next year, one flock for wool, the other is for mutton, &c.; my plan is to change bucks every other year. I shall plant not more than seven acres of corn, and put in just as much rye as one plough can accomplish yearly, and sow clover and plaster on the rye, as it takes better in our soil with rye than with wheat, and rye is less exhausting. I shall try 8 or 10 acres of turnips, but they seem to be a very uncertain crop. I shall try the various kinds of peas, they exhaust little if any, and ameliorate the soil greatly, and in drills require but twice harrowing, with a light harrow betwixt the rows—my plan is to plough as much as I can in the fall and winter—to turn my vast crops of broomsage under instead of burning it off, as is the practice generally—I know from experience that a full crop of broomsage is nearly if not quite as good turned under as a full crop of green clover, it produces an immense amount of manure for its appearance—the straw is nearly solid, it is pretty hard to rot, but that ploughed under will afford much nutriment to any succeeding crop provided care be taken not to turn it up in working or sowing the following crop. I have perhaps 40 or 50 acres of excellent meadow land, which will cost a good deal to get into good order for timothy. I shall try to clear and sow 6 or 8 acres annually of this. Thus, sir, I have given you a history of my farm in starting on it—and a sketch of the plan I shall pursue, hereafter I may recite to you my progress,—excuse great haste.

HORTICULTURE.

(From the Library of Useful Knowledge.)

PLANTING.

(Continued from page 266.)

The *stem, trunk,* or *bole,* constitutes the principal body of a forest-tree. It is the medium of communication between the root and the branches, leaves, flowers, and fruit or seed. By the exercise of this function it obtains its yearly increase of substance, marked by the white circular lines apparent on the surface of a transverse section of the stem of every species of forest-tree. By counting the number of these circles the age of the tree may with certainty be determined.

It was before observed that the structure of the root was similar to that of the organization of the stem and branches; but a more particular notice of the constitution of the wood was referred to this place.

A close examination* of a horizontal section of the wood of a trunk or branch of a tree, will exhibit two very distinct appearances.

1st. A series of white and shining laminæ, which radiate from the pith to the bark.† These generally straight or sometimes interrupted, lines are termed the silver grain or medullary rays of the wood. These vary as to size and arrangement, termed primary or secondary rays, continued in one straight line from the pith to the bark, or interrupted and broken in the course of their direction, according to the species of tree which affords the wood in question. They appear to be composed of cellular tissue, and to originate from the pith, or, in a word, are a linear lateral extension of that organ. These medullary rays are elastic and contractile, as is evident to every one who has observed the effects of the extremes of dry and of moist weather on the section of a felled tree.

2d. A series of concentric layers, or circles, termed the spurious grain. These consist of tubular vessels of smaller or larger diameters, arranged in lines or groups varying according to the genus and species of the tree to which the wood belongs.

An examination of many different kinds of wood proves that these characters of distinction are constant, and, therefore, afford a certain means of distinguishing the wood or timber of one species of tree from that of another.

The following discriminating characters of the woods of the principal timber trees will be found constant:—

The wood of the elm is distinguished by having the medullary rays, or silver grain, equal, and not crowded. The concentric layers are composed of a series of cells of nearly unequal diameter, arranged in an almost simple curved line. The spaces between the layers are furnished with cells of a smaller diameter, and rather thinly scattered over the surface.

The oak has two series of medullary rays; the primary ones are large and strongly marked, distant from each other, and are uninterrupted in their course from the pith to the bark. The secondary rays are numerous between the primary, but not crowded.

The concentric layers, or circles, are distinguished by the arrangement of the cells. They are grouped in somewhat triangular masses, forming a wavy circular outline. The structure of the concentric layers or annual rings, distinguish at once with certainty the wood of the oak from that of the chestnut, with which it has often been confounded.

The wood of the ash has the places of those rays so prominent on the wood of the oak, supplied by twin rays placed in wide intervals over the surface, and between these double rays are smaller ones, placed in regular order. In the narrow spaces between the individuals which constitute the twin rays are wanting those apparent remains of the cellular texture which are so remarkable in the spaces between the single rays.

The wood of the beech has the primary rays dispersed pretty regularly over the surface of a horizontal section of the wood; the secondary rays are not continuous from the pith to the bark, but interrupted, and exhibit a numerous series of fragments of rays, filling up the spaces between the primary ones, obvious to the naked eye, and rendering the silver grain, as it is called, of the beech very distinct from any other kind of wood.

The wood of the Spanish or sweet chestnut has often been confounded with that of the oak; but its characters of distinction are very obvious. It agrees with the oak in having the secondary rays equally disposed, almost straight, and, though close to each other, yet not crowded as in the elm and beech; it differs, in the primary rays being scarcely to be distinguished from the secondary, whilst in the oak these are prominent and obvious to the naked eye on the slightest inspection. The concentric layers are regularly curved, whilst in the oak they are strikingly waved. The mouths of the tubular vessels, which constitute so obvious a part of these annual rings, or layers, are disposed in triangular masses in the oak; on the contrary, in the chestnut they are in regular order.

The hornbeam has the rays of the wood nearly equal, but may readily be distinguished from that of the beech, to which it bears the greatest resemblance, by the simple arrangement of the tubular structure accompanying the concentric layers, which in the hornbeam are distant and oval shaped, the narrow sides pointing to the pith and to the bark; in the beech they are circular shaped, more numerous, and equal sized.

The birch has all the medullary rays nearly equal, arranged closely, and having the concentric circles minute, but marked with a row of equal cells.

The horse chestnut has all the rays very minute, few of them apparently continuous, but interrupted, and in substance varying in breadth. The cells are numerous and minute.

Alder has the wood with large primary rays, thinly arranged, but in nearly regular order; the secondary rays are slender, numerous, and interrupted. The cells of the concentric layers are nearly regular. The spaces between the rays are crowded with cells.

Oriental plane has the primary rays regular but closely arranged; they are somewhat wavy; the cellular texture of the concentric layers but slightly marked.

The sycamore in texture approximates to the plane: still, however, it is very distinct in its straight lined rays, which are very minute or slender The cellular texture is composed of such minute cells as scarcely to be perceptible under a four power microscope; these cells are, however, very numerous.

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* With a common or four-power microscope. A thin slice of the substance is, perhaps, the most convenient for examining. When placed under a high magnifying power the beauty, order, and arrangement of the tubular and cellular texture will reward the observer.

† These should be examined with a magnifying glass, for the texture of the different woods exhibited will thereby be more satisfactorily compared with the descriptions which accompany them.

The poplar has the wood composed of rays so slender as not to be obvious to the naked eye. The concentric layers are composed of exceedingly minute cells. This wood is extremely porous; the cells of which it is composed are so numerous that a very thin slice of the wood, taken horizontally, exhibits the appearance of the finest possible open net-work.

Common acacia, or locust, has wood which bears some resemblance to that of the oak; but it is very distinct from any other kind mentioned here; it wants the distinct primary rays so prominent in the oak, the rays of the locust being all nearly of equal breadth, and as slender as the secondary rays of the oak; here they are somewhat wavy. The cellular or tubular structure is also very different from that of the oak, being arranged in more regular order where they mark the concentric layers, and the spaces between the rays are furnished with many cells irregularly scattered over, of a size equal to those marking the concentric layers.

The wood of the fir is distinguished from all others here enumerated by having very prominent coloured concentric layers, arranged very regularly throughout; and the cellular texture, though composed of cells sufficiently large to be seen with the naked eye, is not to be distinguished without very close observation.

The lime has very slender equal rays and a minute cellular texture pervading the whole body of the wood. The concentric layers are scarcely perceptible to the naked eye. It may be compared to the wood of the poplar, but the network-like arrangement of the cellular texture is not so obvious in the former; the presence of the rays in the lime distinguishes it at once from the poplar.

The wood of the laburnum is distinguished by its minute, regular, uninterrupted medullary rays, and by the broken beaded longitudinal lines of the tubular structure.

These characters of distinction being permanent and constant in all these different kinds of wood, will be found useful in cases where it is desirable to ascertain the kind of timber which may have continued sound for the longest period in any particular building or situation, and the contrary where its duration has been limited.[*]

The *leaves* constitute one of the most important conservative organs of vegetable growth; for on the free and healthy exercise of their functions depend the life of the plant and its progress to maturity, to say nothing of that universal interest and pleasure which is afforded by the diversified beauty of their forms and tints. The green colour of the leaves of trees has been proved, beyond all doubt, to depend chiefly on the influence of solar light and atmospheric air. Almost every distinct species and variety of plant, in its most healthy state, has its own peculiar shade of green: the yellow-green tint of the foliage of a healthy larch, would in that of a pine, spruce, fir, and cedar of Lebanon, be certain indications of disease and decay. The dissection of a leaf shews that it is composed of vessels, cellular tissue, and an epidermis. The green part of a leaf is, in fact, a continuation of the parenchyma of the bark before mentioned; and the midrib and nerves of the leaf are a continuation of the conducting and returning sap, and air vessels of the bark and alburnum. The under and upper surfaces of the leaf may be separated in an entire state from each other. These appear to perform different offices; the under surface is provided with numerous minute pores by which moisture and air are emitted and absorbed. The upper surface of the leaves of trees is supposed to be destitute of pores: this part always turns its surface to solar light.[*]

The leaves of forest-trees are either simple or compound; simple as in the common beech, and compound as in the ash, where several smaller leaves are attached to one foot-stalk. The foot-stalk of the leaf is terminated by a gland, which in deciduous trees, or those that shed their leaves in autumn, becomes indurated, and at that season readily separates from the branch or twig.

The midrib of the leaf is merely a continuation of the footstalk; this divides the body of the leaf longitudinally; it may be compared to the stem of the tree, for from it issue branches of various sizes, dispersed through the substance of the leaf in order resembling those of the tree. The first or largest series of fibres issue from the sides of the midrib, either in an opposite direction, alternately, or irregularly, according to the species of tree; from these secondary branches proceed a third and a fourth series, not however in such straight lines as in the former, but curving and anastomising, or opening into each other in all directions, and, in this last particular, they have a resemblance to the disposition of the minute blood-vessels of the animal economy. The difference in the disposition of the first and secondary fibres of the leaves is so constant in the individual plants of different natural genera, that it affords a very clear discriminating character by which they may be distinguished from each other, in the same manner as the wood of different kinds are identified by the concentric circles and medullary rays before mentioned.

The leaves of the oak (Quercus) have the secondary fibres few in number, and curved towards the sinuosities of the leaf; the third series of fibres are very prominently marked, and the fourth series extremely minute. The leaves of the Spanish chestnut (Castanea,) belonging to the same natural order but to a different genus, have the secondary fibres nearly straight, the third series very numerous and curved alternately, the fourth series nearly as large as the third, and if we examine and compare the wood of the oak and the chestnut, we shall find equally marked distinctions between them.

In the beech (Fagus,) which likewise belongs to the same natural order, but to a different genus to the above, the secondary fibres of the leaves are very prominent, and the third and fourth series minute, and of nearly an equal size, and the texture of the wood is equally distinct from that of the oak and the chestnut.

That the leaves of plants during the day emit oxygen gas or vital air, and absorb carbonic acid gas or impure air, has long since been proved. In the night or during darkness, vital air is absorbed by plants and unhealthy air emitted, and it would appear by various experiments on this important point, that when the supply of carbonic acid gas from the air and soil is greater, the emission of oxygen gas by the leaves during their exposure to sunshine is also greater, hence another cause of healthy plantations improving the climate of their neighbourhood besides that of shelter.

The leaves of trees being the great organs for elaborating the sap and fitting it to become converted into all and every product of the tree, whether timber, bark, seeds or fruit, render the facts relating to their structure and functions of high interest to the planter and forester; for they point out the danger of lessening their number beyond a certain extent, as in excessive pruning, or of suffering the leaves to be crowded too much, so as to exclude a free admission of light and air, as happens when trees are planted too close together, and judicious thinning and pruning are neglected.

The seeds of forest trees. Seed consists of three principal parts: 1st. The *cotyledons*, or seed leaves;—2dly. The *rostel*, or first radicle, which descends into the soil, and becomes the root of the tree;—3dly. The *plamula*, which ascends, and becomes the stem, bole, or trunk. The rostel and plumula are closely united in the seed, and there constitute what is termed the germ, or embryo of the future tree. This is an essential part of the seed, for however healthy in appearance the seed may appear, if the germ be injured, the seed never vegetates. The cotyledons or seed leaves contain a farinaceous substance which is the source of nourishment to the radicle, until established in the soil and fitted to perform its proper office in the development of the stem and proper leaves of the plant. It may be useful in this place to mention, that the seeds of forest trees may be classed under the following heads or general characters, indicating peculiar points to be observed in the practice of sowing them.

1st. *Seeds farinaceous, and covered with shells, nut-seeds.* To this class belong the oak, Spanish chestnut, beech, horse chestnut, walnut, hazel, hornbeam, plane, sycamore, maple and ash, to which may be added, though not strictly belonging to the group, the birch, alder and lime. The first seven kinds, from the farina they contain, are least adapted for keeping out of the soil, and the same cause renders them more difficult to preserve in the soil when sown, by inducing the attacks of mice, birds and other vermin. The spring is considered the best season for sowing, and the seeds must therefore be preserved carefully during winter; the most approved mode is to spread them out in their layers on a cool dry floor, but previously to this they should he thoroughly dried by the sun and air. The smaller kinds of seeds after being sufficiently dried, may be kept in a smaller space. The seed of the oriental plane (*Platanus orientalis*,) however, succeed best when sown immediately as it is perfected. When sown, these seeds require different degrees of covering in the soil. The larger seeds, as those of the chestnut, oak, &c. should be covered with two inches of mould; for the smaller seeds of the plane, sycamore, hornbeam, maple and ash, it will be proper to mix with them sand, in quantity about equal to their bulk, placing the mixture on the ground a foot in thickness, and covering that with an inch thick of mould. The birch may be sown immediately as it is taken from the tree, or preserved in the seed-loft until spring. When sown, the birch is generally covered half an inch with mould, the former seeds with one inch.

2nd. *Hard seeds, or stones covered* with a pulpy fruit. The proper covering of these seeds is so hard, as to have acquired for them the name of stones. In this class are the cherry-tree, mountain-ash, whitebeam, yew, holly, pear, crab and thorn. With the exception of the cherry-tree, all these remain in the soil one or two years before they vegetate. To obviate the irregular vegetation of these seeds, which is attended with loss of time and inconvenience, the practice of preparing them for sowing by what is called pitting has been adopted; this is done in the manner above mentioned for the hornbeam, plane, &c.; but as one, two, or even three years in the pit or preparatory bed are wanted for some of these seeds, it is requisite after they have lain a certain time in the pit to uncover them and turn them over, so as to assist in the separation of the pulp from the stones. Holly berries require one year at least to prepare them for sowing; mountain ash, whitebeam, yew and ash, lie one year; the cherry readily vegetates in the same spring in which it is sown.

3d. *Leguminous, or bean seeds.* These, as regards forest-trees are confined to the common acacia, or locust-tree (*Robinia Pseud Acacia*,) the glutinous Robinia (*Robinia viscosa*,) and the laburnum. These seeds vegetate freely when sown from the tree, but it is the general practice to preserve them until spring in a dry, cool place. When sown, they require to be covered with about three-fourths of an inch of mould. If sown too thickly, that is, less than one inch seed from seed, the plants soon injure one another, and become diseased.

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[*] It would be of the greatest utility to the interests of planting were registers kept of the kinds of timber used in particular buildings; also the age of the tree which produced it, when felled, and the soil, and situation or climate, in which the trees were reared. Posterity would be grateful for such records of facts.

[*] For a minute and interesting account of the varied forms of these pores, and of their number on different plants, see Part I. "of Vegetable Physiology," published in the Library of Useful Knowledge.

4th. *Light seeds.* Under this head, we enumerate smooth elm, and mountain elm, the poplar, and the tree willows. These seeds being light, and separating freely from the tree when ripe, require care in collecting, as otherwise they are liable to be dispersed and carried away by the wind. They vegetate quickly and may be sown so soon as they are ripe. Spring, however, is preferred, as tender seedling plants are subject to injury from severe weather in winter. They should be covered to the depth of one fourth of an inch of fine sifted mould.

5th. *Resinous seeds* are those of coniferous or fir-trees. Their vegetative power, when cleaned or separated from the cones, is not to be preserved if they are kept out of the ground for any considerable length of time, and they require particular care in sowing. The soil of the beds ought to be of a light sandy nature, enriched with the vegetable mould of decayed tree leaves, or well decomposed dung. If a proper quantity of the former manure be added, and well incorporated with the sandy loam above described, it will bring that soil to a suitable texture. The seeds are borne in cones, furnished with scales of a hard woody consistence. The cones of the larch with much difficulty part from the seeds, and various means have been adopted to effect that object. The best is that of first opening the cone, or dividing it lengthways into two or four parts, then placing them on a kiln and drying by a very gentle heat until the valves begin to open, when they should be taken to a proper floor and threshed: the seeds may then be separated by a sieve. The cones of the Scotch fir and the spruce, require also the aid of the kiln; but the seeds part from the cones easily, and the splitting of the cones is superfluous. The spring* is the best season for sowing these seeds. The soil of the seedling beds should be in as finely a pulverised state as possible for their reception.

The seed of the stone pine requires to be covered with one and a quarter inches of soil, the silver fir and pinaster with one inch, the Weymouth pine with three-fourths of an inch; the Scotch fir, Norway spruce, balm of Gilead, and cedar of Lebanon with half an inch of soil. The cedar of Lebanon is best sown in boxes placed in a warm or sheltered situation. The larch should not be sown so deep; a covering of a quarter of an inch of soil suffices. The white, red, and American spruce firs, having smaller seeds, require a slighter covering of a fifth of an inch deep, and the texture of the soil should be even lighter, which can be easily effected by adding sand or a larger proportion of the mould of decayed tree leaves. Heath soil, or bog soil, containing a good proportion of fine siliceous sand, has been found very congenial to the vegetation of these seeds.† Shading from hot sunshine is highly beneficial to them, indeed, indispensable in some states of the weather, for the thin covering of soil which is necessarily allowed them is soon affected by the action of the sun's rays, and sudden drought quickly destroys the tender seedlings. The thickness in which the seeds should be sown, according to the respective kinds, is on an average from three to four on a square inch, so that the plants when produced, stand not nearer to each other than that scale of distances.

The artificial fine state of culture of the soil in the seed beds, rendering it less retentive of the due degree of moisture than is required, the beds should be consolidated before and after the seeds are sown, either by the use of a roller, or by the spade.

In concluding this practical view of the structure of forest trees, and of these natural agents, which obviously influence the growth of plants, it may be useful to take a similar view of the process of vegetation. A perfect and healthy seed consists of an outer covering, cotyledons, radicle, and plumula. When sown in perfectly dry earth, it remains unchanged; if in an excess of moisture, it loses its vegetative powers and decays: in neither case it vegetates. When the temperature of the soil is below a certain point, all vegetation is suspended. Should the soil and the temperature be perfectly favourable to vegetation, yet if the seed be not planted shallow enough to be within the influence of atmospherical air, no vegetation takes place. Different species of seeds require different degrees of moisture, temperature, and atmospheric influence, to render their vegetation the most healthy and perfect. The natural constitution of different soils, as regards their respective properties of retaining or easily parting with moisture; the proper season of sowing, as regards the temperature of the soil and the atmosphere, by whatever local causes subject to be influenced; and the respective depths to which the seeds should be deposited in the ground, as above mentioned, apply directly to the skill of the cultivator to aid, modify, and assist these primary essential agents of vegetation; and on the right adjustment of these depend the success and just reward of the planter in this first stage of the process of his art.

(To be continued.)

(From the New England Farmer.)

BLIGHT IN PEAR TREES.

The disease of the pear tree, termed *blight*, has been less prevalent this year than during years past. But it seems to have assumed a new character, or changed its mode of attack. In the early part of the season I discovered that the epidermis on the bodies of several trees, of two to four inches in diameter had become brown in spots, and was cracked and separating from the true bark; and in some instances I found the disease had extended to the wood. I immediately had them washed with a weak solution of chloride of lime, which seems to have restored them to health. I applied the chloride the preceding year to the stumps of some amputated branches, in some of which cases the disease had extended down upon one side of the bole of the tree. In every case the disease was checked, and the live parts have protruded beyond the dead wood. Although Mr. Lowell, whom I highly respect, and whom I am ambitious to propitiate, detests all theories, I am nevertheless induced to hazard my theory in this case. It is this, that the disease is owing to a minute insect, which preys upon the bark, and vitiates and poisons the elaborated sap; and that the chloride destroys the insect and becomes an antidote to the poison. From partial experiments I am induced to believe, that chloride will prove an efficient preventative to the mildew on grapes also. These suggestions are hazarded in the hope that they may lead others to make more satisfactory experiments.

J. Buel.

Oct. 20, 1831.

Lot Hinkley of Barnstable, Mass. has raised this season, from about 50 rods of land, 1602 bunches onions, 364 watermelons, 120 muskmelons, half barrel cucumbers, 60 winter squashes, 3 bushels beets and turnips, 24 drum-headed cabbages, 1 bushel beans, 4 bushels potatoes, 1 bushel peas, and 2 lbs. onion seed.

RURAL ECONOMY.

(From the New England Farmer.)

ECONOMY IN FATTENING HOGS.

I have thrown by my steamer for hog food, and substituted a boiler, and I think, with manifest advantage. The former consisted of a 60 gallon cask, over a potash kettle, badly set. I could only work off four or five casks a day, with great labor and trouble, and the apparatus required to be luted with clay at every operation. With my new kettle, holding 30 galls. which is a thin beautiful casting, I have cooked eight and nine barrels in half a day, and much better than by the steam process. This food consists of small refuse potatoes, of which I have nearly 100 bushels, or 15 per cent. of my whole crop, pumpkins, and a small quantity of Indian meal. A half day's boiling serves my hog family four or five days; and it is always kept prepared in advance. The actual expense of fattening hogs thus upon the refuse of the farm crop, is 50 to 75 per cent. less than feeding with dry corn.

The economy of my apparatus consists much in setting the boiler, so as to have all the advantage of the fire. The interior brick work is made to conform to the shape of the boiler, leaving an interval of four to six inches between them for the fire, round the whole exterior of the kettle, with the exception of a few inches at top, where the flange or rim rests upon the projecting brick. Thus the boiler is not only encompassed by the flame, but the heat is augmented by radiation from the brick work. The fuel is burnt on a grate, which extends nearly to the kettle, four or five inches above the level of its bottom. My boiler being in operation while I am penning these remarks, I have ascertained, that a kettle of potatoes, with three pails of cold water, covered with boards, has been completely boiled in 18 minutes from the time they were put in, another boiling having been just previously taken out. My kettle was set by a son in his teens, without assistance, and was his first effort in masonry.

J. Buel.

Albany Nursery, Oct. 20, 1831.

(From the New England Farmer.)

BEES.

The following extract from a communication to the Bristol county Agricultural Society, shews the manner in which the writer has succeeded in excluding from his hives, insects so often destructive to bees.

"In the first place, I plant the posts of my bee-house in troughs or gutters, filled with water to prevent insects from getting into the hives, and frequently strew fine salt at the mouth of the hives to prevent the worms from troubling the bees. I have kept bees for four or five years, and have never been troubled with any kind of insects.

"Jacon Shepard, Norton."

HOGS.

We saw at Mr. Edward Walker's establishment in this town, on Thursday, a lot of nearly *eighty* of the largest and fattest hogs we have ever seen, weighing between three and four hundred lbs. each. It was with great difficulty some of them could move about. The same gentleman, we are told, killed a superior lot of hogs, about a hundred, last spring. He has also, now, a fine lot of about ninety store pigs.—*Bunker Hill Aurora.*

Mr. Jabez Reed, Wilton, N. Y. has raised from a single seed this season, 26 pumpkins, weighing 486 lbs. most of them fit for use. There is a loud call for them from the neighborhood of Windsor, Vt. and Claremont, N. H. where they are at a loss how to keep thanksgiving, from dearth of pumpkins.

[*Patriot.*

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* If the winter happened to be favourable, and the depredations of vermin were completely prevented, the balance would be in favour of sowing the seeds of the fir and pine in autumn, and which would be the case also with every description of forest-tree seeds, the hard or stone seeds probably excepted.

† This description of soil has been erroneously supposed to be injurious to transplanted firs, and implements are used to remove the heath soil from the intended sites of the plants, in order that the roots may be inserted in the subsoil of gravel or sand, of which the subsoil almost always consists. The roots of the heath while alive are the cause of injury, not the nature of the soil.

MISCELLANEOUS.

AMERICAN INVENTIONS.

It is no novel remark, that the genius of our countrymen is peculiarly turned to mechanical inventions. The fact is generally admitted, and it is perhaps not difficult to assign the cause. Necessity, according to the ancient proverb, is the mother of invention; and the early colonists of this country were driven by a thousand necessities to the exercise of their ingenuity. The professors of the innumerable arts of Europe did not come out with the first hardy spirits who planted these shores, and the consequence was that every man was obliged in some measure to become his own artisan. A multitude of expedients were contrived to supply the place of the conveniences to which they had been accustomed.—Shelter was to be devised against the rigours of a new climate, the dangers of a wilderness full of wild beasts and savages were to be guarded against, the resources of a new country were to be explored, and the materials it furnished sought out and applied to human use. The habits of mechanical ingenuity, thus created, were transmitted by the first colonists to their descendants, and form a part of the national character. Jonathan, as our neighbors over the water call him, is distinguished from his brethren of the old world by a prompt habit of casting about for expedients in every emergency, by the multitude of patents he takes out every year for new inventions, and by the vast quantity of contrivances, proverbially called "notions," which he turns out. He is continually occupied in devising how he may do the most work with the least expense of exertion, and the abundance of the means of living in this country affords him leisure to put his plans to the test of actual experiment.

We have before us a record of all the improvements in the arts, machines and manufactures invented in the United States and entered in the Patent Office since the year 1793, when the first patent law was passed. It is contained in a document transmitted last winter to Congress by the Secretary of State, and comprises a list of no less than six thousand inventions, the product of American ingenuity in the course of thirty-six years. During that period, the plough has been made to undergo *one hundred and twenty-four* improvements. One hundred and nineteen threshing machines have been invented. That great problem, the extraction of butter from cream without fatigue to the operator, has been solved in eighty ways by the inventors of eighty churns; and the laundress has been allowed her choice out of one hundred and twenty-five washing machines. One hundred and twenty-three machines have been invented for making nails; the number of new spinning machines exceeds a hundred; the number of improvements in the loom is seventy-three, and in the manufacture of hats forty-three. The number of steam engines exceeds a hundred, that of stoves is nearly the same. There have been forty-two new ways contrived for manufacturing combs, in which we presume, is included the late ingenious invention for cutting them by a single operation, into all sorts of figures. Four new machines for paring apples have been invented, and three gridirons. Pencil cases, ramrods, razors, and suspenders, have each been subjected to various improvements. An invention has been patented under the name of "dog power," another termed an "elevator of pots and kettles," and a third destined for a useful domestic purpose under the sonorous Greek name of "Haemagalactophorus.'

HUDSON AND MOHAWK RAIL ROAD.

It was the American and not the English locomotive, which went up the day before yesterday in thirty-eight minutes, and returned in thirty-three. "Brother Jonathan," as yet, is decidedly in advance of "John Bull."—*Albany Argus.*

THE TRAVEL FROM ALBANY—RAIL ROAD STATISTICS AND REVENUE.

The number of passengers arriving and departing from Albany daily, is not only much greater than is generally supposed, but is increasing in a ratio nearly incredible. Those coming in and going out at a single point, will illustrate this remark.

From the 10th to the 20th August, there were 1,986½ passengers passed over the Mohawk and Hudson rail road, or an average of 180½ per day.

From the 20th August to the 17th September, 4 weeks, the aggregate number of passengers on that road, was 9029, or an average daily, of 322½.

This is a revenue equal to $58,766 25 per annum. The expenses of the road are estimated at $40 per day, $14,600 per annum. Leaving a net revenue on $44,166 25, or nearly 15 per cent. per annum, or $300,000 for a single track. The passengers by the canal and turnpike, are estimated to exceed the number now passing on the rail road; so that the actual number of passengers to and from Albany in one direction, may be estimated at not less than 600 per day.

The above returns, it will be perceived, do not include any part of the season of the influx at the Springs. Including that season, with the Saratoga rail road in operation (and that work is rapidly progressing,) and with the general abandonment of other modes of travel and transportation, which may be expected when the rail road shall be completed from one city to the other; and the number that will pass on the road, will average 800 per day.

The fact is not only a striking exhibit of the number of persons arriving and departing from this city, but of the great and increasing income of the rail road company.—*N. Y. Am. Advocate.*

THE FARMER.

BALTIMORE, FRIDAY, NOV. 11, 1831.

SPRING DALE FARM, YORK, PA.—The Editor of the American Farmer has recently visited SPRING DALE, the residence of Charles A. Barnitz, Esq. near the beautiful village of York, Pa. and considers many things he met with there sufficiently remarkable for a public notice. It is known that Mr. Barnitz has in his possession a great part of the celebrated stock of Durham Short Horn cattle recently owned by Col. J. H. Powel of Philadelphia. To see these cattle alone is worth a visit to his residence. There are between twenty and thirty head of the full blood, besides nearly as many of common and mixed blood. Among the former is the celebrated Bellina, the famous Butter cow. In her appearance she is far below many of her companions, though when critically examined, her *points* are all good. The straight back,—the perfect level of the spinal column from the horns to the tail,—the square sides, the wide hips, the full brisket, the intelligent countenance and wide spreading bag, are all there; but she makes a pound of butter at every milking, and hence she has not the sleek fat sides, and the *filling up* so necessary to a finished and beautiful subject. She illustrates the idea perfectly, which we have so often inculcated, that a deep milker or a great butter yielder can not be easily kept fat. She illustrates another position we have advanced, that milk from different cows apparently of equal richness, is very differently constituted. In some, cheesy matter and whey prevail, in others cheesy matter and oil, and in others oil and whey prevail with but a slight quantity of cheesy matter. The first is common milk, affording a small quantity of cream, and poor skim milk; the second affords a medium quantity of cream and makes good cheese, and good skim milk; the last affords a very large quantity of cream, no cheese scarcely, and very poor skim milk—so poor indeed that it is scarcely fit for use. This latter is the case with Bellina; when her milk has stood the proper length of time, the cream, (the milk being three or four inches deep) is nearly half an inch thick, and so firm that it will almost bear lifting like a buckwheat cake, the skim milk being very inferior. Mrs. Barnitz took about half a pint of her cream in a small bowl, and in a few minutes produced six ounces of the finest butter we ever tasted, by simply stirring it with a teaspoon. The buttermilk produced was less than a small wine-glass full and that of quite a poor quality. This cow, unlike the generality of her breed, has coarse hair, and is of ordinary size, and as before remarked would be taken for an ordinary animal, except upon critical examination by a good judge. Very high offers have been made for her and her calves.

Another cow presented a remarkable character; she was the largest we ever saw, measuring between the points of her hips about two feet four inches. We could not take the measurement exactly, as she was rather shy of our stick, but we satisfied ourselves that we were not an inch out of the way, and think we are within the truth. She is of good proportion in all her parts. She has not had a calf since she was imported, in consequence as is supposed of some injury on the voyage. The proprietor expects to fatten this cow for the Baltimore market, and if he does we shall be able to boast of a beef superior in weight and quality to any ever slaughtered in America.

There are many beautiful young bulls and heifers for sale. We noticed a pair of calves, as white as swans, of equal size and age, that attract great attention, and induce high offers. We must not pass over the fine young animal selected by Mr. B. for his stock bull. He is beyond all comparison the finest animal of the kind we ever saw, and has the fine points of this breed in the greatest perfection imaginable. When we have heard that if the legs were cut off upon a line with the bottom of the belly, and the neck perpendicularly with the breast, the body would form a perfect oblong square, the sides of which would be just double the width of the ends, we have been in the habit of considering it a fancy sketch; but actual measurement and examination of this bull convinces us of its truth.

The other stock at Spring Dale are also worthy of notice. The South Down sheep, with their long, round bodies, are very beautiful. We, however, for common purposes, like the Bakewell better. This is mere matter of opinion; but it is supported by the experience of our friend Barney of Philadelphia, who on sending some Bakewells to Mr. Barnitz, begged him not to spoil them by crossing them with the South Downs. Mr. Barnitz, however, thinks the finest sheep he ever had was the produce of such a cross.

Mr Barnitz has an excellent breed of hogs, with which we were much pleased. It is a cross between the common Chester county breed, which is very good, and a China breed. They keep in good condition on common pasture, and fatten very easily. They generally weigh 200 to 250 pounds, and have very small offals.

One of the most beautiful objects at Spring Dale is the flock of geese. They are the Westphalia and Bremen kinds. The former is decidedly the largest and handsomest goose we have seen. They are perfectly white, with red feet and bills, and often weigh when dressed, ten to fourteen pounds. The Bremen geese are very much like the Westphalia, except in size, being smaller; but even these are worth half a dozen of the common kinds. These geese in comparison with common geese, for the table, are what canvasbacks are to common ducks.

There are many other subjects for remark, which we met with at Spring Dale, but our limits do not admit of their notice this week; but shall take an early occasion to notice them. We cannot conclude these remarks, however, without expressing the gratification we received in this our first visit to that part of the interior of Pennsylvania, and especially at Spring Dale, the hospitable and delightful residence of our friend Mr. Barnitz. The beautiful scenery of the village of York and its environs must be left to some abler pen for description. Had it been placed at the foot of the Alps, a thousand romances and poems would have been devoted to its celebrity.

Aracacha and Quinoa.—The Editor of the American Farmer has the pleasure of stating, that his success in cultivating these new vegetables has been equal to his expectations. The Aracacha has not produced many eatable roots; but it has done as well as any other vegetable of the kind at the first trial so far from its native soil and climate. It has produced about five times as many roots for planting next year, as were planted last spring, notwithstanding nearly half of the original stock was destroyed by moles. The only difficulty now to be encountered, is the keeping of them through the winter. In South America, they are planted immediately after being taken from the ground, there being no winter there. Every expedient will be resorted to for their preservation, and if this difficulty be overcome, the great object of introducing this new and excellent vegetable may be considered as accomplished.

The Quinoa, notwithstanding the lateness of the season when the seed was received, (May 13th,) *has ripened,* and yielded a fine crop. There can be no doubt, now, of its perfect adaptation to our soil and climate, nor of its being a most important addition to our agricultural products. The grain is adapted to all the purposes of common rice, and to many persons is superior to that excellent grain. It is believed that it will yield a larger crop than any other grain. The only piece of ground we had unoccupied, was a very poor light sandy soil; this, however, has produced abundantly—at a future time, we will give the measurement of the ground and the produce. We tried an experiment, by planting a single plant in an old hot bed, where it grew literally, on a pile of rotten stable manure. This plant occupies about four feet square of ground, but is not quite ripe—it is believed it will yield two quarts of grain.

In a week or two, we shall give the mode of cultivating these plants. As the quantity of seed is very small, the Editor has determined to dispose of a portion of them in small parcels, that every person who wishes them, may have some. This will enable them, after once or twice planting, to get seed for a crop. The aracacha roots will be disposed of at 25 cents each, and the quinoa at 25 cents an ounce.

"Arator," whose communication appears in the present number, will accept our thanks for his interesting paper. We hope he will continue to favor us with the results of his experience.

FOREIGN MARKETS.

Liverpool, *Sept.* 24.

The operations in rice, 300 casks Carolina have changed hands at 15s. to 16s. 6d.

Cotton.—The import this week is 11,013 bags, and the sales are extensive, reaching 20,760 bags at very full prices. The public sale was well attended and the Surats sold readily at the current prices obtained by private. 600 American, 600 Surats and 200 Brazils have been taken for export, and 3000 Alabama on speculation, viz: 400 Sea Island at 9d to 18d; 170 stained do. at 5¼ to 10½d; 4160 Boweds at 4¾ to 6 3-8d; 2630 Orleans at 5d to 7 3-8d; 6980 Alabamas, &c. at 4¾ to 6 1-8d.

Corn.—Since Tuesday the trade has been heavy. Wheat, declining another 1d to 2d. For flour, there is a very trifling inquiry. Indian corn is 1s per quarter lower.

Wool.—Wool is in demand at better prices.—The public sale on Friday, went off with much spirit at an improvement of about 8d on New South Wales quality. The attendance was unusually large, and the disposition to buy all sorts great.—On Saturday the inquiry for Scotch was considerable, and purchases, many on a large scale, would have been made, had the currency of the previous week been submitted to; but the stocks in the hands of the consumers being exhausted, and the supply at market being light, the holders appear determined upon better prices. Sales were made of Cheviot, at 21s a 22s; Cruss 15s. Laid 8s a 8s6d.

London Markets, *September* 24.

Corn.—The trade generally was in a very dull state to-day, and the sales of wheat and barley were to such trifling extent as scarcely to form a currency.

Wool.—The late public sales have been 3300 bags from New South Wales and Van Dieman's Land, and about 200 bales of German, Spanish, &c. but the latter are too inconsiderable to form market prices; the Colonial wool sold higher at the close, than at the first sales, but the market is still dull, except for the low qualities; the prices were 7½d to 2s6½d.

The cotton market continues firm, but there is no briskness. Rice is brisk, Carolina 32s a 35s.

Prices Current in New York, Nov. 5.

Beeswax, yellow 18 a 19. *Cotton,* New Orleans .10 a .12; Upland, .7 a .10; Alabama, .8 a 11. *Cotton Bagging,* Hemp, yd. 14½ a 17; Flax 13 a 14½; *Flax,* American, 7 a 8.——*Flaxseed.* 7 bush. clean .—— a .—— *Flour,* N. York, bbl. 5.50 a 5.62; Canal, 5.87 a 6.06; Balt. Hwd. st. 6.00 a ——; Rh'd. city mills 6.00 a 6.12; country, 5.50 a 5.62; Alexand'a, 5.50 a 5.62; Fredericksburg 5.37 a 5.50; Petersg. 5.50 a 5.62; Rye Flour, 4.50 a ——; Indian Meal, per bbl. 3.87 a 4.00; per hhd. 17.25 a 17.50; *Grain,* Wheat, North, 1.12 a ——; Vir. 1.14 a 1.22; Rye, North, 88 a —; Corn, Yel. Nor. 70 a 73; Barley. 1.28 a ——; Oats, Sth. and North, .42 a 48; Peas, white, dry, 7 bu. 5. Beans, 7 bu. 7.00 a 8.00; *Provisions,* Beef, mess 6.75 a 7.00; prime 4.75 a 5.00; cargo 3.50 a 4.00; Lard, 9 a .10; Pork, mess, bbl. 12.00 a 12.50; prime 9.50 a 10.00.

TO THE PUBLIC.

Having assured my friends and patrons that should I ever find it necessary to lower the prices of my PLOUGHS, that I would give public notice thereof, that every gentleman may know the price he will be charged before he sends his orders—I therefore submit the following reduced prices to the public, which will be my charge from the date hereof.

Balt. Sept. 17, 1831. J. S. EASTMAN.

No. 6	a small Seed Plough, - -	$4 50
7	also a seed do. - . -	5 00
7	improved and a heavier Plough, -	5 50
7	Bar Share for stony land, - -	6 00
8	one or a small two horse Plough, -	5 50
8	large size improved small 2 horse do. -	6 00
8	Bar Share for rough soil, - -	6 50
9	small 2 horse Plough, called the poney do.	7 00
9	large size heavier Plough improved, -	7 50
9	Bar Share Plough for rough soil, -	8 50
	Sword Coulter for the same $1.50.	
10	a large 2 horse or small 3 horse plough,	9 00
10	Bar Share for rough soil, - -	11 00
	Sword Coulter for the same $1.75.	
12	a large three horse Plough, - -	14 00
	Sword Coulter for the same $2.00.	

For sale improved Barshare Plough, and the Scotch Plough improved by Geo. Glezy, together with his usual assortment of AGRICULTURAL IMPLEMENTS and Grass Seeds. He has also received by ship London Packet, a fresh assortment of GARDEN SEEDS, which are believed to be of superior quality. J. S E.

DURHAM SHORT HORN CATTLE.

For sale several Cows and Heifers of the above breed, full blooded, and also others of different grades of blood. Apply to the Editor of the American Farmer.

BALTIMORE PRICES CURRENT.

Baltimore Market.—There has been a slight improvement in Howard street flour, in consequence of the limited supply. The wagon price yesterday was $5.25. In other kinds of flour there is no change. Grain and other produce remains without alteration.

Tobacco.—Seconds, as in quality, 3.00 a 5.00; do. ground leaf, 5.00 a 9.00.—Crop, common, 3.00 a 5.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 10.00; yellow and red, 8.00 a 14.00; yellow, 14.00 a 16.00.—Fine yellow, 16.00 a 20.00.—Virginia, 4.00 a 5.00.—Rappahannock, 3.00 a 4.00——Kentucky, 3.50 a 8.00. The inspections of the week comprise 507 hhds. Md.; 77 hhds Ohio; 21 hhds. Kentucky; and 9 hhds. Virginia—total 614 hhds.

Flour—best white wheat family, $6.75 a 7.25; super Howard-st. fresh $5 31 a 5.37½; city mills, fresh 5.00 a 5.25; Susq.— a —; Corn Meal bbl. 3.50; Grain, Md. red wheat, 1.00 a 1.05; white do. 1.10 a 1.15, Susq. — a —Corn, white, 53 a 55—yellow 53 a 55—New Corn 45 a 48—Rye, 70 a 72—Oats, 36 a 38. Beans, 75 a 80—Peas, 65 a 70—Clover-seed 5.25 a 5.75—Timothy —— a 2.50 —Orchard Grass 1.50 a 2.00—Tall Meadow Oat Grass 2.00 a 2.50—Herd's, 75 a 1.00—Lucerne — a 37½ lb.—Barley,—Flaxseed 1.37 a —Cotton, Va. 6 a 9—Lou. 9 a 12—Alab. 9 a. 11—Tenn. .8½ a. 9½; N. Car. 8½ a .9½—Upland 8 a 10—Whiskey, hhds. 1st p. —— a 34; in bbls. 35 a 36——Wool, *Washed,* Prime or Saxony Fleece 58 a 67; American Full Blood, 50 a 58; three quarters do. 44 a 50; half do. 38 a 44; quarter and common do. 35 a 38. *Unwashed,* Prime or Saxony Fleece, 33 a 37; American Full Blood, 30 a 33; three quarters do. 28 a 30; half do. 25 a 28; quarter and common, 22 a 25——Hemp Russia ton, $255 a —; Country, dew-rotted. 5½ a 7c. lb. water-rotted. 7 a 9c.—Feathers, 37 a 38; Plaster Paris per ton, 4.50 a ——, ground, 1.37½ a —— bbl. Iron, gray pig for foundries per ton 33.00 a ——; high pig for forges, per ton, 28.00 a 30.00; bar Sus. per ton, 72.50 a 80.00.—Prime Beef on the hoof, 4.25 a 4.50—Oak wood, 3.00 a 3.25—Hickory, 4.25 a 4.50—Pine 2.00 a 2.25.

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EDITED BY GIDEON B. SMITH.

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AGRICULTURE.

(From the Southern Agriculturist.)

On the Culture of Clover and Cotton.

Pendleton, August, 1831.

I have been unpardonably negligent in not replying to yours' dated some time back; various occupations, and the usual disposition to procrastinate, added to a great aversion to writing, and a still greater to appearing in print, must plead my excuse. All of which you will say, is fodge. Be it so.

You request that I will give the result of my experiments in the culture of clover. The time of sowing, preparation of land, product, and number of cuttings obtained in the season, also its duration, &c.

I think the beginning of October the best time for sowing the seed, as the plant will take sufficient root during the winter to give it an early start in the spring, and enable it to stand the heat of the sun of the following summer.

The land should be rich, or made so by manure. I would prefer the north slope of a hill, or a piece of pretty good land, near a water course, for an experiment. It should be ploughed very deep, two or three times if necessary, or until the ground is perfectly mellow, and thoroughly pulverised. The seed should be mixed with a little earth, or ashes, that it may be sowed more regularly (about a gallon to the acre,) and brushed or harrowed in lightly. I prefer the former, as it leaves the ground more smooth and regular.

I cannot state accurately the product, by weight, having used mine, as yet principally for pasture, cutting only partially for seed.

If the season is wet, two cuttings may be obtained in the year; the first heavy, and the last light. As to its duration, I can as yet see no limit. That part which formed the subject of a former communication, is still growing finely, and I believe without diminution, if I had not pastured it too closely when young. The last spring, (so unusually backward, and all vegetation so completely checked, except the clover,) I was induced to suffer the milk cows, and mares, and colts, to run upon it too long for a good crop of hay; yet some has been obtained.

I am inclined to think that in our climate it may be continued almost any length of time, by giving it a top dressing of manure every spring, and keeping down noxious weeds. I find aridity its greatest enemy, being a very succulent plant it requires much moisture, therefore deep ploughing and manure, or land naturally rich, are essential to its successful cultivation. So little attention has been paid to the cultivation of grasses, with us, that it is thought that, that time is thrown away, which is devoted to this object, every farmer considering how he shall most easily destroy, rather than produce it. Hence the common practice of selecting a piece of ground, for this purpose, which is too poor to produce any thing, the surface is lightly scratched over, the seed scattered very carelessly, and as thin as possible, the object being to make the most of a little. The consequence is that the weeds get the start, the grass is only to be seen here and there, if at all, and the whole product as good a growth of weeds as the poor soil could produce by its own feeble effort. The experiment is abandoned, and it is thought impossible that the foreign grasses can be grown in our climate.

The late Judge Peters, well known as a practical farmer, justly said, in reply to a communication recommending a grass as growing well on poor land, "it could not be worth cultivating, as nothing good grew on poor land."

I am sorry to say that my experiment with the sugar cane, of which you inquire, has failed; the severity of the last winter destroyed the seed. This I regret, as the cane was obtained from the highest point on the Mississippi that it is cultivated, and would have been most likely to have succeeded here. I am by no means satisfied that it would not have succeeded to a certain extent, if the seed had been preserved with more care. If molasses alone could be obtained, for plantation use, it would be worth the culture.

In a former letter you asked my opinion of the cause of rot in cotton. I have not been inattentive to the various theories advanced on the subject, but as yet have come to no settled conclusion, as to the true cause. The most commonly received opinions are, that it is produced by an insect, by atmospheric action, or defective seed. That it is caused by an insect I do not believe, but have long thought that the insect was the consequence, and not the cause of the disease. That it is the result of atmospheric action, my observation has not been sufficiently minute to detect. That it is in part owing to defective seed, I have little doubt; but that it is mainly caused by defective cultivation I am more inclined to believe.

Before the price of cotton advanced considerably, I am not aware that the disease existed; as soon, however, as it enhanced in value, and the cultivation became more extended, we heard of its ravages, first in Louisiana, where the most extensive cultivation commenced, and thence on to our own state; from which I infer, that as the quantity grown to the hand increased, so was the cultivation more negligent. Residing in a part of the state which has been thought uncongenial to the growth of cotton, believing that one acre well cultivated, was worth two that were otherwise, and that good cultivation, judiciously bestowed, would accelerate the growth of the plant, and overtake the season, I have planted much less to the hand than is usual. Practice being admitted to be better than theory, I will give you my mode of cultivation, with the result, from which you can draw your own conclusions.

As soon as my crop is housed, which is generally about Christmas, a large furrow is opened by a two horse bar-share, between the cotton rows; in this furrow the stalks are broken and laid on; where there are poor spots stable manure is hauled and distributed. This being done, throughout the field, the same kind of plough follows, and throws two furrows on the stalks and manure. In this situation it remains until about the last of March, when two more furrows are thrown, one from each side, on the same ridge. About the middle of April, which is my time for planting, a trench is opened by a *bull-tongue or gofer* plough, about five inches wide, in which the seed is drilled tolerably thick; it is then covered by a board attached to a common shovel stock, with a notch cut in the lower edge, directly over the seed, to prevent their removal. A roller made of a pine log, about one foot in diameter, embracing two ridges at a time, and drawn by shafts, completes the operation of planting. The last I consider of decided advantage; cotton will come up several days sooner, stand better, and look much more healthy than when it is not rolled. I use a heavy roller always for my small grain, one that requires two good mules to draw. My rule is, in preparing for planting, to break the land as deep as a two horse bar-share can do it, turning under all the vegetable matter that may be on the surface: but in cultivating, to plough lightly, so as to disturb or expose the deposite as little as possible, to the action of the sun. I use an instrument which I call a scraper; I believe it is something like what is called a buzzard plough in Georgia. It does the work of a hoe, by horse-power, and in such land as I cultivate (light isinglass river land) or loose upland, free from roots or stumps, is not surpassed by any implement that I have ever seen, for the neatness and expedition with which it operates. I use no other plough in my cotton fields, in an ordinary season. I think the perfection of cotton culture is in the hoe; but if any other instrument is used, it should go merely deep enough to kill the grass. I have seen more cotton injured than benefited by ploughing too deep, and particularly late in the season.

Without going more into detail, the above is the course which I have pursued steadily for ten or twelve years. Now for the result. I make from 700 to 1000 lbs. of seed cotton per acre, one field of 20 acres has failed but once in six years, to yield 1000 lbs., and one year it produced 1200 lbs. per acre. In the whole time mentioned, I do not believe that in any one year, I have lost a bale of cotton by *rot*. When my neighbours lost from one half to two thirds of their cotton by rot, I had little or none. Mentioning my exemption some years back, when the rot was committing great ravages, it was thought remarkable, and many were desirous to try my seed, in hopes to avoid the evil; but I have never heard, on trial, that it had any preference. I once sent a wagon load to Abbeville district, which was planted in common with a large crop to the hand; it rotted excessively the first year, and was abandoned or mingled with the other seed.

I never plant from the first or last picking, in both of which there are a great deal of prematurely opened cotton, and defective seed.

It has been often said, that the black seed was less liable to rot than the green; may this not be owing to the neater and more careful cultivation of the hoe. I have never seen cotton worse rotted than the black seed, under bad cultivation; I doubt, therefore, whether it is less liable. It is an opinion of many practical farmers in this country, that blast in small grain is occasioned by seed cut before the grain is perfectly ripe. May not the rot be produced, as probably from the seed of cotton prematurely opened. In all the latter bolls near the top of the stalks, not more than half grown, and forced open after a frost, the seed is very defective, and I should suppose incapable of producing healthy vigorous stalks.

I am glad to find that a spirit of inquiry is abroad, on the subject of grasses. There is no part of our system of husbandry more defective, and none more important. Nothing adds more to the comfort and independence of a farmer, than a plenty of fine, fat stock, which can only be obtained by attention to the cultivation of grasses.

With Mr. Parker, clover must succeed well. I have always thought his neighbourhood peculiarly well adapted to its growth. We have the supposed *gama grass* mentioned by Mr. Ellison, but it has not been attended to. Walking over a rice plantation on Cooper river, more than twelve months since, I observed, for the first time, its growth on the cross bank. It immediately occurred to me that it might be planted to advantage on the sides of the river banks, as giving strength and solidity to the loose soil of which they are composed. It has the strongest and most closely matted roots of any grass that I have seen; it is very hardy, and easily transplanted. When I first obtained it, I was pleased with its luxuriance, and the ease with which it might be extended, and wished to make a lot in my low grounds, but was deterred; from the formidable appearance of the roots, which I feared might, some day, give trouble to eradicate. This difficulty may easily be obviated in the rice lands, as water would soon destroy it.

I once thought of entering the list, and backing Colonel Simkins on the advantages of horizontal ploughing, in the controversy with Mr. Ellison; but as Falstaff's expression, that "discretion was the better part of valour," occurred to me, I desisted. I will not now *cross-furrow* and *gully* the fair work which has been accomplished, as it appears from Mr. Ellison's last communication, that their differences have been horizontalised.

Very respectfully, &c. John E. Calhoun.

Count Leon and suite were lately at Erie, Pa. He wishes to obtain 100,000 acre in a body, and has had Rapp's settlement in view; but it is doubtful if he can find so much good land in a body there.

ON RAISING GRAIN ON LIGHT SOILS.

MR. SMITH: *Easton, Pa. Nov.* 8, 1831.

A correspondent in your last "Farmer" wishes to be informed whether any thing has been done at raising grain on light sandy soils manured with marsh mud, plaster of Paris, or lime, and if so wishes a detail, &c. with the results. I will give him what has come under my observation. Some years since I bought a lot of land which contained 14 or 15 acres of river bottom of very light sandy soil—the rest upland, which was stony. The bottom being easier farmed, had been completely worn out by the tenants, who, under the former owner, had used it for years without any manure. The first year of my owning it I tried a part with 50 bushels of lime to the acre, put on in the spring after breaking it up for corn—it produced a good crop of corn and subsequently one of the best crops of winter grain in the township—it was then sown with clover and timothy, and plastered, (i. e. sown with ground gypsum) and produced me two tons of hay to the acre; I continued the same course of treatment on the whole flat, with equal success, adding to the lime as much stable manure as we had made on the lot. It may be proper to say that perhaps previous to my owning it, the lot had never had a bushel of plaster sown on it, and perhaps never had been limed or manured to any extent, and that when broken up after I got it, I caused it to be ploughed very deep—deep ploughing answers well except on stiff clay soils. The crops of this part of the world have been greatly improved within the last ten or fifteen years by the use of lime as a manure. For a time after the introduction of gypsum, many of our farmers relied on it, and clover alone—other manures were neglected, and although much good was done by the introduction of clover, yet the process of cropping exhausted the land, and gypsum, which I believe is only a *stimulus,* ceased to produce any beneficial effects on the lands. Recourse was then had to lime—that has been successfully continued ever since, and our millers inform me that the result has been an increase of at least 50 per cent. in the quantity of grain produced in the same district of country. Lime, I believe, operates as a manure by its caustic properties neutralizing the acids in the soil. I have also observed, when several years have elapsed without the application of gypsum, that on renewing it its effects are again very manifest, especially on the grass crops. In the little farming I have recently done I have combined the application of stable manure and lime, and when I manure, I do it in earnest and it pays well. On an out lot of five acres near this borough, which had been suffered to become exhausted because the former owner said *he could not afford to buy lime and manure,* he was unable to raise wheat, and the grass crop was very indifferent. I broke it up early in the summer—put on it 250 bushels of lime, and 44 horse-loads of manure, gave it three ploughings and sowed white wheat. The next season I got 31 bushels of wheat to the acre—I sowed clover and timothy among the wheat. I sold the crop of grass *standing* the next season for $40, and got $10 for the fall pasturage; this year I made upwards of ten tons of hay off it, and have again gotten $10 for the fall pasturage.

The effect of lime is visible for a greater or less length of time according to the nature of the soil,—I have seen it distinctly visible twelve years after it had been applied.

In this country it is generally put on after the land is ploughed, and then harrowed and ploughed in. If the season be not too dry its beneficial effects will be visible in the summer crop following its application in the spring. But if land be limed for the summer crop and a dry summer succeed, it sometimes injures that crop that season, although its beneficial effects will be seen the next and succeeding years; lime never is fully felt in its effects until a winter has passed after its application. On poor or thin land I think an application of the lime on the surface or sod in the fall the most advisable; spread it and let it lie till spring. I think any land will bear 40 bushels to the acre thus applied, and that the difference of the corn crop the next season will nearly if not quite pay the price of the lime, if it can be procured at a reasonable price.

J. M. P.

HORTICULTURE.

(From the Library of Useful Knowledge.)

PLANTING.

(Continued from page 278.)

In whatever position the seed is placed, the radicle first bursts the covering, and takes a downward direction into the soil, where it becomes fixed, and protrudes, at right angles from its sides, numerous rootlets, which in their turn emit others; then, and not till then, the cotyledons rise above the surface and expand, shewing the plumula or bud of the stem, which now advances in growth and unfolds the proper leaves. After the leaves are fully expanded, the communication of the pith with the buds, formed or forming, at the base of each leaf-stalk in the angle made by that and the stem, may be traced. The loss of either of these organs of the seed at an earlier period, would have prevented farther growth; for if the cotyledons had been seriously injured or taken away, the radicle and plumula would have died; if the radicle had been removed, the same effect would have followed; or if the plumula had been taken away, the plant would have made no farther progress. But as soon as the formation of the germ of buds is effected, as now stated, the cotyledons may be removed; the summit of the stem and the lower extremity of the radicle may be taken away, and the plant will reproduce others. It is during the previous stage of growth that the attacks of insects prove so fatal to seedling plants, and require the utmost care of the planter; and hence also the greater care and attention that is demanded in the preparation of the soil for seeds than for the reception of transplanted trees. This also points out the danger of injury to the vegetating seeds, by disturbing the seed beds before the plants are perfected. It is in these early stages of growth, that the foundation is laid for the future health, beauty, and vigorous growth of the tree. The fibres of the root, with the minute spongeols before mentioned, now imbibe and send up the food of the plant to the leaves, where being spread out to the influence of solar light, heat, and atmospheric air, it is elaborated and returned through the foot-stalk by the longitudinal vessels of the inner bark to the root, depositing in its course, or in conjunction with the original fluids of the cellular texture, forming the various substances and secretions peculiar to the tree. That the sap ascends by the longitudinal vessels of the alburnum, sap, or soft wood, and descends by those of the inner bark, seems to be proved by the experiments of Mr. Knight and others, who have more intimately investigated this part of the subject. That a lateral movement of the sap goes on at the same time, and in conjunction with the ascending and descending movement, appears equally certain.* Every individual leaf of a tree is furnished with its own particular series of vessels for the course of the sap, and not only prepares and elaborates the sap for the increase of substance of its own branch, but also for that of the parent stem and root. Hence it is that trees regularly furnished with branches from the base upwards have more tapering stems, than trees with branches confined to the upper half of the stem, the increase being equal, from the point where the branches begin, downwards to the root; or, in other words, whatever length of stem from the root upwards is destitute of branches, that part of it from the period of losing them increases in size equally throughout.* Without a just knowledge of this principle in the economy of vegetable life, the important process of pruning in the culture of forest-trees, cannot safely be performed by the forester: that the sap never ceases wholly to move† is evident in the increase of the roots and buds during winter when the plant is leafless; but its ascent is particularly distinguished for greater force and activity at two periods of the year, spring and midsummer. The ascent in spring is the strongest, and continues until midsummer, gradually diminishing in force as the new branches and leaves are perfected. This generally takes place about the beginning of July, when an apparent cessation of ascending motion in the sap immediately succeeds, and continues usually for the space of a fortnight or three weeks, according to the age of the plant and the state of the weather. A second ascent of the sap, and growth of shoots now take place, but with diminished vigour; unless from accident, disease, or unfavourable weather, the spring growth has been checked, and the first flow of sap prevented from being exhausted in the production of branches, leaves, and blossoms. It is worthy of remark, that those shoots which form fruit, flower, or seed buds, have seldom if ever any second growth; but remain without increasing in length until the next spring. The midsummer growth is almost always confined to those branches which carry wood buds only. After the second growth is completed, the effects of the descending sap in the formation of new bark and wood is very apparent in the healing up of wounded parts of the stem and branches, which now proceeds with more activity than during any other period of the year. Branches pruned off after the midsummer flow, seldom are followed by shoots from the edges of the wounds caused by their removal, which always happens, more or less, when pruning is performed on free growing trees after the fall of the leaf, and before the full development of the spring shoots and leaves: it is to observed, however, that the reproduction of branches from the edges of a wound is greatly assisted by leaving a portion of the branch or shoot, or its parent branch or stem, but impeded when a branch is pruned off close to the stem. What was before stated regarding the offices of the pith and medullary rays in originating the buds of shoots and branches, will be confirmed by these facts.

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* The sap in ascending is farthest removed from the action of solar light, heat, and atmospheric air, in descending it is nearest to these important agents, receiving their impulse through the medium of the green cellular tissue or parenchyma. The offices of this organ in transpiration and inhalation, may be compared to that of an universal leaf covering every part of the stem and branches of a tree.

* This fact may be demonstrated most conveniently, by pruning the lateral branches off quite close to the stem of a young fast growing tree, leaving a certain number to form a top, and to keep up the growth of the plant.

† The term *circulation*, has been objected to as improper for describing the course of the movement of the sap in plants; because a point from whence the movement begins, and to which it again returns (as for instance, the heart in animals,) has not been discovered in plants; for in these the sap is periodically exhausted in the increase of the substance of the tree, and its place periodically supplied from the soil to the spongeols of the roots. The term periodical is here understood to apply to the effects observed, by the practical planter, of the spring growth, midsummer growth, and leafless or winter cessation of growth, annually in the progress of every forest-tree. That the roots of these plants (as long as their vital powers continue to act) continue; *without intermission*, to imbibe fluid or pabulum from the soil, however small in quantity that may be at certain seasons, seems highly probable; as also that a movement or circulation of the fluids of the cellular texture, however languid it may be, exists even in the leafless tree. But there are plants, such as the hyacinth, potatoe, onion, &c. &c., which remain two or three months annually during their progress of existence, without a possibility of imbibing any thing whatever by their roots, rootlets, or spongeols, inasmuch as during that period of their existence, they are destitute of these organs wherewith to imbibe.

Food of Plants.—Those substances which the roots of plants take up from the soil, and those which the leaves or green system of the plant inhale or imbibe from atmospheric air are comprehended under the name of the food of plants. This part of vegetable physiology has long engaged the anxious inquiries of science, as well as of practice. The question is one of much importance, inasmuch as a perfect knowledge of what constitutes the food of plants generally, and individually, would with unerring certainty point out the means of fertilizing soils, defective in any respect for bringing to perfection the species of tree most desired; would indicate at the same time the most proper substances to be used with the greatest advantage, the exact proportions in which they should be mixed, the mode of applying them, and the best process of manual culture or working the soil, for elaborating and preparing them for absorption by the roots. Of late years great progress has been made in the investigation of this part of vegetable physiology; the labours of T. A. Knight and M. Dutrochet are, in particular, highly valuable, but much still is required before even an approximation to the solution of this important question can be attained. The structure of the root shewed us that whatever kinds of substances are conveyed or by it introduced into the plant, such substances must be in a minute state of division, or dissolved in water. The analysis of a soil demonstrates the soluble substances it contains. These have been found to be chiefly vegetable extract, combined with smaller proportions of a few of the neutral salts, as sulphates of potash and lime, muriates of lime and soda, or common salt; this last, in every instance of our own individual experience, is always in a larger proportion to the other saline matters, and is never altogether wanting, as is the case sometimes with the sulphates and muriates of lime. The vegetable extract, except as regards its presence in poor clays and siliceous sands,[*] is always in a larger proportion to the saline matters. It contains the elements of which the substance of a tree is composed, viz. carbon, oxygen, hydrogen, and azote. The extract, however, obtained from soils is never perfectly pure, but is always more or less (in all our experience) combined with mucilage, and frequently with soluble animal matters. In alluvial soils distinguished for fertility, the soluble extract is found in the largest proportion; five parts of vegetable extract in four hundred of the soil is considered the maximum for healthy vegetation.

The soils called alluvial have the power, it is evident, of preserving this substance in the decomposing vegetable matters which supply it, and of giving it out to the roots of plants, or rather to the water of the soil, slowly, but in that seasonable and regular manner which is the most conducive to the healthy exercise of the functions of the roots. It is evident that in some alluvial soils, this extractive vegetable matter must have remained from a remote period uninjured for the purposes of vegetation.[†] In siliceous, sandy, and gravelly soils, the reverse of this takes place, for the manures applied to these is speedily decomposed, and the extractive matter given out, comparatively, at once: hence the constant repetition of manures required by these kinds of soil to keep them productive. When clay, mild lime, or chalk, fine siliceous and calcareous sand, and impalpable vegetable matters are so intimately combined as to constitute what is termed the best loam, the extractive matter, whether of long duration in the soil or in recently supplied manure, is economized and given out to water, and to the roots of plants, in a similar degree of effectiveness as in the alluvial soil: on the contrary, when clay is the chief earthy ingredient of a soil, the vegetable matter is either retained in the manure, or given out partially; the lower temperature of the clay, its great adhesive powers, and compact texture, uniting to produce this result.[*] The food of plants supplied by atmospheric air, whatever proportion it may bear to that supplied by the soil, is at least equally essential to the growth of plants, for they can no more exist without that, than they can exist without the soil. The curious structure of the leaves shews how admirably they are fitted to imbibe air and moisture. The essential constituents of atmospherical air are oxygen and nitrogen or azote; and it holds in solution carbonic acid gas and water; they are elastic and invisible, but can be separated from each other, and their bulk, or volume, and weight can be determined, and their properties satisfactorily ascertained.[†] Oxygen has received the name of pure or vital air, because animals cannot respire if the air they breathe be deprived of it, nor can seeds vegetate unless it be present in the soil and air in which they are placed. It enters into the composition of the vegetable and most other acids, and largely into that of sugar and extract. It forms about one-fifth of the air of the atmosphere. Carbonic acid gas constitutes about a thousandth part of atmospherical air, its basis carbon is well known in the state of charcoal, and is the fundamental constituent of wood. Nitrogen, or azote, constitutes about four fifths of the atmospherical air. Its offices have not been so clearly discovered: with much reason, however, it appears to be employed in the formation of several products of vegetation, as gluten and albumen, and in modifying the actions of the other components of the air. It is remarkable that carbonic acid gas being so largely produced by numerous artificial and natural processes constantly going on, as in the putrefaction of substances of every kind, in fermentation, combustion, respiration of animals, and, during darkness, by the green system of the whole vegetable kingdom, so small a portion only of it should be found permanent in the air, varying from 1-500 to 1-1000 part as the minimum and maximum. It is heavier than the other constituents of air, and it is lost from the atmosphere, or from wherever it may exist in plants only, and forms the bulk or basis of every kind of wood, it must be at present considered as being largely taken up by the roots of plants. Water, the last mentioned constituent of atmospheric air, enters into it in the state of vapour. The quantity of it suspended in the air is supposed to vary from 1-60 to 1-300 part of the atmosphere, being greater as the weather is dry and hot, at which time it is most useful to the growth and health of plants, being absorbed by the leaves.[*] It is clear that water constitutes immeasureably the largest portion of what is taken up by the roots and furnished

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[*] The soils here alluded to, the results of whose chemical examinations have led to the above conclusions, were of almost every kind or description to be met with in practice, comprising the various degrees of fertility intermediate between the poorest sand and the most tenacious clay.

[†] Extractive matter, when separated from the saline compounds with which it is usually accompanied in soils and in vegetable manures, and exposed to the air, soon decomposes or putrifies. It also loses its solubility in water after two or three solutions in and evaporations of the water. It is a constituent of the nutritive matter of the food of the larger domestic animals, but in the process of digestion, it is not retained in the body of the animal for the purposes of life, but is voided with the fæces. The pasture grasses, corn, or annual grasses, green or soiling plants, as clovers, lucerne, sainfoin, vetches, turnips, mangel wurzel, and carrots, all contain extract as an essential constituent, which, with the woody fibre and saline matters of the vegetable, are returned again to the soil.

[*] The great benefit resulting to clayey soils from the process of paring and burning, is that of improving their texture, and, even in some degree, their temperature or latent heat. A certain degree of what may be called a circulation of the water and air of a soil is essential to its power of preparing the food of plants depending on the soil. Where this power is wanting, as in the case of a perfectly stagnant clay or peat, or a sandy soil, with a subsoil impervious to water, vegetable matter, however ample, in these soils will remain inert and afford no support to trees, or, at least, they will not long exist if planted under such circumstances. So obvious is the effect of this principle of circulation of water and air, (if we may be allowed the expression,) that some have undertaken to prove that the fertility of soils depended on it alone, and that water and air constitute the sole food of plants; and that even animal and vegetable matters were no farther useful than as contributing to the temperature and texture of the soil, fitting it for the more ready circulation of these, and more readily presenting them to the roots of plants. However erroneous the conclusion may be, the principle of practice inculcated by it is essential to the successful cultivation of trees, for on it depend the processes of paring and burning, draining, trenching, digging, and in a word the judicious adoption of the various means which are employed for pulverizing and comminuting soils.

[†] The elasticity of the constituents of atmospheric air is so powerful, that when, from local causes, one ingredient is generated in undue proportion to the others, the most perfect analysis of the general air in the immediate neighbourhood of the spot where this circumstance happens, cannot detect any difference in the proportions of the proper constituents from that of the air of the most healthy region. The atmosphere of a crowded city and that of an open or moderately sheltered alpine region, afford by analysis the like number and proportion of ingredients or elements; but notwithstanding this, the influence of the air of these two situations on vegetation is very different. There are certain plants which will not grow in the atmosphere of a crowded city, and there are others which thrive in the former, and will not continue long in that of an alpine air. Some of the following plants grow freely in the atmosphere of the crowded parts of the city of London.

Plants that grow freely.	*Plants that exist for only a few years in perfect health.*
Sycamore	Laburnum.
Elms	
Mulberries	*That exist in health only a limited time.*
Ivies	Privets
Virginian Creepers	China Roses
Vines	Alpine Plants, scarcely ever produce flowers.
Oriental Planes, bulbous and tuberous-rooted plants, except Snowdrops.	

Since the above list was written, the Bedford Conservatory, or new flower and plant market, Covent Garden, London, has been erected by John Duke of Bedford, and this interesting feature to the ornament of the metropolis will afford extensive means to determine what species of hardy as well as of tender plants will thrive in the atmosphere of so large and crowded a city as that of London. Since this part of the market was completed in the month of June last year, the following plants may be mentioned as having thriven best. The orange, *Citrus aurantium,* camellia, *Camellia Japonica;* rhododendrons, *R. ponticum, R. maximum, R. punctatum.* Some kinds of pelargoniums, *Geranaceæ.* Heaths, particularly *Erica tubiflora, E. cylindrica, E. persoluta, E. cuppressina, E. odorarosa; Acacia verticillata, A. armata, Epachris grandiflora, E. pungens rosea.*

[*] The value of vapour in air to the health of plants, is well known and appreciated by every skilful cultivator of tropical plants in an artificial atmosphere, as well as by the successful forcing fruit and flower gardener in the hot-house. Plants are enabled by vapour in the air to withstand the effects of extreme heat and drought, which otherwise would destroy the organization of the leaves. We ourselves have found the leaves of the province rose, when in an artificial atmosphere, at an early season (and when its vital powers could not be so strongly exerted, as when under the circumstances of its natural season of growth and exposure) to unfold and increase in healthy growth when subjected for a certain time, each day for the space of a fortnight, to hot air strongly charged with vapour, while leaves of the same species did not unfold, or when unfolded previously to the application, shrivelled up and perished under the application of a dry current of air, of the like temperature, and though all other circumstances were equal.

to the plant by the soil; and when it is considered that water is composed of oxygen and hydrogen, it cannot be supposed to act merely as a vehicle of the food of the tree, it contributes, probably, to the increase of the solid parts of the living structure by decomposition into its elements, through the agency of the vital powers.

Such are the general facts disclosed by chemical examinations of the soil and atmospherical air, with respect to the substances supplied by them to plants as food. An analysis of the sap itself immediately after its absorption by the spongeols of the rootlets, and before it enters the ascending vessels of the alburnum,[*] would probably leave nothing more to be desired on this important subject, that might apply to the operations of the practical planter. The sap hitherto examined chemically, has been taken from the alburnum of the tree, and consequently after it had undergone a change in its original constitution, or that which characterised it at the moment of its entering the spongeols of the rootlets immediately from the soil. That the sap undergoes a change in the ascending vessels of the alburnum before it is acted upon by the leaves, has been proved by Knight and others. In these instances, the sap extracted from the lower part of the tree, contained much less saccharine matter, than that taken from a more elevated part of the stem. According to Vauquelin, water, extract, mucilage, sugar, and acetic acid, combined with potash or lime, are found in sap taken from the alburnum or ascending sap vessels of the birch, elm, and beech; but these vary in the sap of different species of trees. Saccharine matter is most abundant in the birch and sugar maple. These results, however, afford but little light in the investigation of the question, as we know that the same sap which produces the acid, astringent crab, produces also the saccharine, aromatic pippin. By the action of heat, light, air, and the peculiar organic structure in different species of trees, under the influence of the vital power, are those substances which are soluble in water, or saccharine and mucilaginous fluids converted into insoluble or resinous and oily substances.

From these facts we may conclude that soluble substances, chiefly vegetable extract, mucilage and carbon, with water as a vehicle and a component, presented to the roots of plants under circumstances varying according to the chemical constitution, and mechanical texture of soils, adapted to the peculiar habits or natural wants of different species of trees, as the oak for instance, and the larch, constitute the food of trees supplied by the soil to the roots; and that atmospheric air of a certain temperature, and degree of moisture, and with freedom of circulation, constitutes that other essential part of the nourishment of trees, which is taken up by the leaves or green system of the plant.

Air, like water, requires a certain freedom from stagnation or confinement to render its nourishing and invigorating properties available to the leaves of trees; when comparatively stagnant, its valuable properties become lost to plants. This is indicated by the disappearance of the green colour from the leaves, which soon drop off, and are not reproduced, but the branches die; a few remaining alive at the top of the stem, may continue the existence of the tree for a few years, but without adding to its girth or solidity of contents. These are the invariable effects of stagnant air, the most common and indeed the only cause of which in plantations is the neglect of seasonable *thinning* of the trees, and the removal of dead and decaying vegetable matter as it is produced.

The putrefactive fermentation of spray and brushwood left in close plantations where the circulation of the air is confined, produces fetid gaseous matters, alike hurtful to animal and to vegetable life; the growth of moss on the bark of trees is promoted by it, and whenever this becomes general in a plantation, the progress of the trees is greatly retarded. We cannot better illustrate the importance of attending to this principle of practice in the planter's art, than by stating an instance kindly communicated to us by high authority[*] on the subject: in many places over an extent of upwards of a thousand acres of the plantations at Blair Adam the prunings of spray and brushwood, and the loppings of the trees thinned out, for which there is no sale in this country, had been allowed to accumulate for many years. The injurious effect was so remarkable, that the proprietor determined to have the accumulation removed. This was done at an expense not very considerable. Ever since the accumulation has been prevented by having a squad of women and boys, to clear away and brush after the woodcutters or pruners. The expense of this operation has been overpaid by the increase of growth, and it is evident that it has added greatly to the value and beauty of the woods, as well as to the growth of underwood.

To have entered more minutely into the details of the vegetable physiology would have been incompatible with the scope and design of this essay, and to have dwelt less on those principles which bear directly upon every operation of the planter's art, would have rendered the practical details which follow, more obscure and less instructive.

(To be continued.)

(From the Southern Agriculturist.)

Some Observations on the Rationale of the action of Oil on the Fig in hastening its maturity; by Dr. I. A. Johnson.

(Read before the Horticultural Society of Charleston, August, 1831.)

At a meeting of the Horticultural Society in July last, we were highly favoured by the Secretary, Mr. J. D. Legare, with several very interesting experiments instituted by him, shewing, that by applying oil to the aperture at the apex of the fig, it will be brought to maturity nearly a fortnight sooner than it otherwise would do if left to its own efforts.

In consequence of these experiments, a request was made to me to give the *rationalé* of the process; I have, conformably to their wishes, hazarded an opinion, deduced from principles sufficiently established by some of the most respectable physiologists,[†] to bear me out in the attempt;—should I fail of success however; my willingness to comply with the wishes of my friends, coupled with a desire to aid in the investigation of so interesting a subject, must be my only apology.

It has been asserted, and with much probability too, that the envelope of every seed, of what form or size soever, is produced from a leaf, which by an inscrutable law of nature, is destined to perform that particular function, previously to its developement; or in other and better language "a leaf forming a carpel or pericarp, may be folded in various ways, either cylindrical or like a cornucopia, or doubled a little convex like a pod, but however diversified the form of the fruit, it results always from the manner in which the leaf was originally budded."[*] This is observable in the pod of the pea (*lathyrus*) by careful examination you may perceive that it consists of a leaf doubled upon its upper surface, with its edges soldered together so as to form the pod, the under surface of the leaf now becoming the outer surface of the shell or pod.

It will be necessary here that I should describe the structure of the leaf, in support of what I am about to advance, for which purpose we will select a leaf of the same plant (*lathyrus.*) It has a smooth upper surface, and is of a darker green than the under; the under surface is very porous, of a rougher texture, pale colour, and for the most part hairy or downy. Between these surfaces we find the cellular tissue traversed in various directions by the fibrous vessels, which form the *ribs* and which from their size produce a great unevenness in the under surface—upon the upper surface also the stomata or mouths of the exhaling vessels open, while the under surface of the leaf is abundantly provided with the stomata of the absorbing vessels; these inhaling *air* and *moisture* from the atmosphere; the upper surface at the same time giving of the surplus fluid, and warmth which is deposited there by the ascending sap; hence leaves have been called the lungs of the plant.

Now, in the pea-pod, these several parts are likewise clearly perceptible, and if separated at its soldered edge, the form of the leaf may be very well recognized; you will now observe that the leaf is doubled upon its upper surface, in such a way as to make the under surface *external*, this being the most porus surface, and that which contains the absorbent vessels—were it otherwise, the fruit would perish. This is the case, not only with the pea, but with all other forms of pericarps, the same is also, in a great measure, applicable to all buds.

Let us now apply these principles to the fruit in question, and although the fig cannot be strictly considered a pericarp, but an expanded receptacle whose hollow is lined with innumerable flowers and seeds, seldom containing both staminate and pistulate flowers, but for the most part pistillate only, in the same fig, having an orifice at its apex or summit, through which moisture and heat are no doubt passed off, yet as a bud it is amenable to the same laws.

Notwithstanding this exception to the above formation of a pericarp, it is still the product of a bud, as I have said, and as such, must possess some at least of the properties of a leaf. If this be granted, then it will follow, that if oil, or any other mild application be made to its aperture, so as to include the perspirable fluid, the heat and moisture of which, being thus retained, are thrown back upon the fruit contained within this dilated receptacle, and thus add greatly to facilitate the maturation; but on the other hand, let the oil be applied to the outer surface of the fig, and the arrest of absorption, must prove fatal to the fruit.

In order to establish this proposition I selected several figs, and such as had the oil applied to the aperture only, matured in ten or eleven days after the application of it, those which were covered with it, wilted and sloughed off by the eighth day, while such as were undisturbed did not ripen for ten or fifteen days after, thus establishing the above theory.

It may not be amiss here to observe in support of the assertion that a leaf may become a pericarp, that a pericarp (or germ) may resume the form of a leaf, as may be seen in *monsters*, such as althia, rose, or gardinia, when very double; in many instances the *pistil*[†] in participating in the monstrosity becomes a *leaf*, while the stamens assume the form of *petals*, such flowers never bear fruit or seed.

I. A. Johnson.

Pride costs us more than hunger, thirst and cold.

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[*] The rapid communication which exists between the spongeols of the rootlets and the leaves at the extremity of the tree, as evidenced by the sudden effects produced on the latter by the application of water to the roots of a tree whose leaves have become flaccid or drooping from the want of it, warrants the idea that the ascent of fluids from the roots to the leaves is more direct than our knowledge of the structure of the vessels will allow, or that a principle exists in the vegetable structure analogous to that of the irritability of the animal fibre. The well known experiments of Hales to ascertain the force with which the sap of trees ascends, show that the sap of a vine branch four or five years old rises with a force considerably superior to atmospherical pressure. Plants having the leaves firm and glossy, exhibited proportionally less force in their ascending sap. Vide *Vegetable Statics*, vol. i. p. 114.

[*] The Right Hon. Lord Chief Commissioner Adam.

[†] Brown; De Candolle.

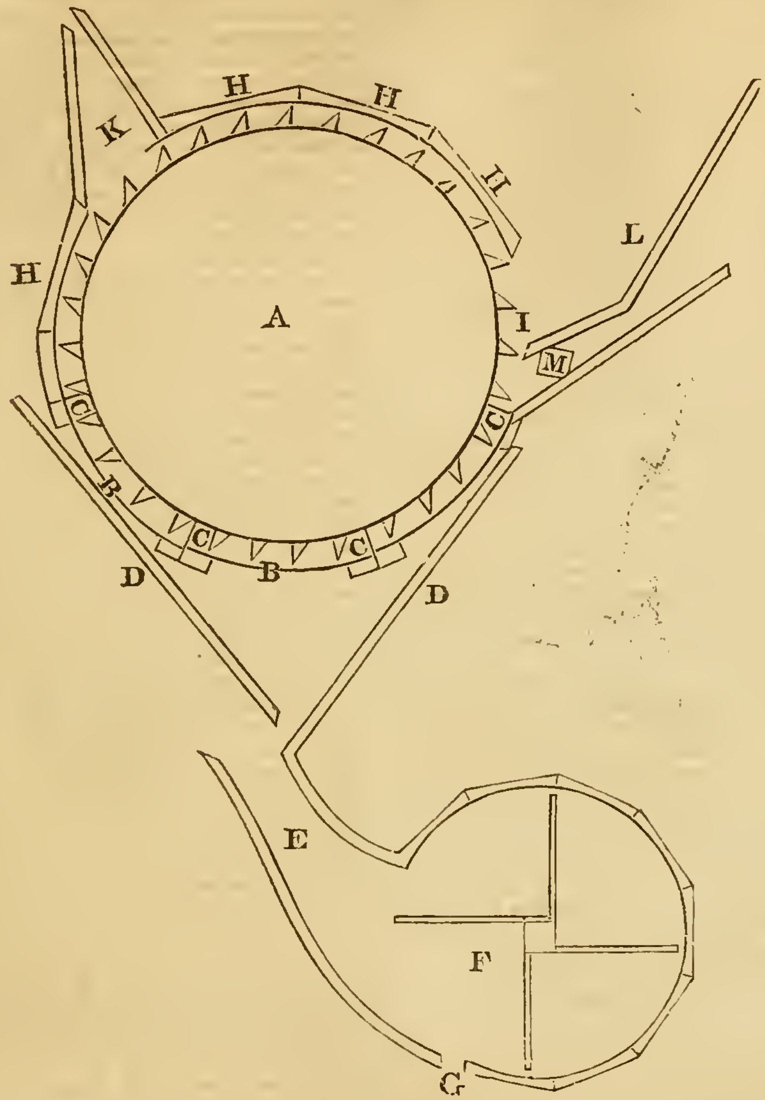
[*] Conversations on Veget. Physiol.

[†] A pistil consist of stigma, stile, and germ, this latter portion becomes pericarp as the fruit matures.

RURAL ECONOMY.

DESCRIPTION OF BURRALL'S CLOVER MACHINE.

COMMUNICATED TO THE PENNSYLVANIA AGRICULTURAL SOCIETY, BY D. K. JONES.



The annexed diagram is intended to represent a longitudinal cut through the machine, from end to end. Shewing the situation and arrangement of the different parts.

A. Shews the end of the cylinder, and one row of teeth.

B. B. B. The bed, covered with perforated tin sheets.

C. C. C. C. Four leather stops, attached to the bed.

D. D. Sliding boards, to conduct the seed into the trunk of the fan.

E. The trunk of the fan.

F. The fan.

G. Opening in the fan, through which the clean seed falls.

H. H. H. H. The cap, or covering of the cylinder.

I. The feed opening.

K. The chaff opening.

L. The front board of the hopper.

M. The shaft of the feed roller.

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This machine is the invention of Thomas D. Burrall, Esq. of Geneva, in the state of New York, and is in extensive and successful operation in the western part of that state, by hand, horse, and water power.

The first machine on this plan, and one of the largest which has been constructed, was put in operation by horse power, on the farm of the inventor, in September last, and cleaned at the rate of one and a half bushels of seed an hour. It was, however, discovered, that the power of one horse was inadequate to give it motion sufficient to do its best work.

It was afterwards set up on a small stream, previously occupied by a carding machine, in which situation it had sufficient motion, and cleaned from two to three bushels an hour.

From numerous experiments, it is found, that the fair work of a horse machine, is one bushel an hour, and that of a hand machine, eight quarts. The work of the water power may be increased indefinitely, by enlarging the cylinder.

It is ascertained, that if the same power which is required to move one run of mill stones, should be applied to the clover machine, it would clean more than four bushels per hour.

The operative part of the machine is contained in a frame of wood, supported by four posts.

The frame is 5 ft. long, 4 ft. wide, and 5 ft. high in the clear, and is put together with mortice and tenon, in the usual manner.

Within the frame is hung a cylinder, 4 ft. long, and 2 ft. 6 in. diameter. An axis passes through its centre, the ends of which revolve on metallic boxes inserted in the sides of the frame. The cylinder is armed with thin triangular iron teeth, 1½ inches long, and one inch wide at their basis, which are attached to the face of the cylinder, in rows 3 inches apart, around, and 1½ inches apart, lengthwise of the cylinder. The acting edges of the teeth are serrated.

The lower half of the cylinder is incased in a semicircular covering, (called a bed) composed of three or more frames of wood, covered with sheet tin, perforated with holes large enough to admit the seed to pass through, when threshed. These frames are slid in semi-circular grooves, cut in the sides of the machine, two inches from the face of the cylinder.

On the upper edges of these frames are nailed strips of soal leather, (called stops) in which are cut openings, to admit the teeth to play freely through them, when the cylinder is in motion. The office of these stops is to regulate the currents of air, which will necessarily be raised by the cylinder, when in rapid motion, so that the chaff may lay at rest in the bed, till the seed is whipped out.

Immediately below the bed, are sliding boards, which receive the seed as it falls through, and conducts it into the trunk of the fan.

The fan is inclosed in a circular case 1 ft. 6 in. diameter; from the lower part of which proceeds a serpentine trunk, 12 in. wide, at the end, inserted in the case, and gradually decreasing in width, to three inches at the other end. In the lower part of the trunk is made an opening, 1½ in. wide, through which the clean seed falls.

The upper half of the cylinder is covered by a semicircular cap, corresponding with the circle of the bed. A feed opening is made in the forward part of the cap, over which the hopper is placed. Another opening, 5 in. wide, is made in the opposite side of the cap, near the top, through which the light chaff, leaves, dust, &c. is discharged, by the motion of the cylinder. From which opening proceeds a short trunk, which gradually diminishes in width to the end, where it is ¾ of an inch wide.

The sides of the cap extend the length of the machine, which, together with the cap, form three sides of the hopper. The other side is made by sliding a board in grooves, cut in the sides of the cap, at their extreme ends. The bottom of the hopper is hinged to the lower edge of the last mentioned side, and rests on the feed roller.

The foregoing description is a light water power.

The motion of the cylinder is from the feed towards the chaff opening, and requires to pass through 2,000 ft. of space in a minute, to do full work. The motion of the fan is taken from the cylinder by a cross band, and should perform ¾ as many revolutions in the same time. The feed roller has ¼ the motion of the cylinder, and is also taken from it by a cross band.

The clover heads, freed from the straw, are put into the hopper of the machine, from whence they are shaken by the feed roller, within the action of the teeth. They are then carried over by the motion of the cylinder, and all the light chaff, leaves, dust, &c. is at once discharged at the chaff opening, while the chaff containing seed, by its superior gravity, falls into the bed of the machine, and as the currents of air are there checked by the stops, it lies at rest, while the teeth are cutting briskly through it. As soon as the seed is whipped from the hull, the chaff rises, and flows out of the chaff opening, while the seed falls through the bed into the fan, where it is winnowed.

The advantages which this machine possesses, are as follows:—It performs its work at a single operation, and requires less than one-fifth the power of any other machine for the purpose, to do the same work.

No heat is raised, and no seed wasted, or in the least injured.

The uncomfortable dust, always attendant on other modes of hulling clover seed, is almost entirely avoided, as the hull is not reduced to a powder, but merely broken. It is simple and compact in its construction, and may be moved from place to place without injury.

Philadelphia, March 12, 1824.

(From the New England Farmer.)

ICE HOUSES.

Mr. Fessenden,—Your correspondent C. whose communication was given vol. x. page 13, of the New England Farmer, complains of not being able to keep his ice through the summer, and imputes it to the soil on which his house is located. I have an ice house, which is built on the same kind of soil, which he describes, say a gravelly knoll. I dug a pit, say from 8 to 12 inches larger than I intended the frame. I dug it about 8 feet below the surface, and with the gravel, which came out of the pit, I raised it about 2 feet. My frame was 10 feet long, 8 feet wide and 10 feet deep. I planked it up with 2 inch hemlock planks, and filled the space on the outside, which was from 8 to 12 inches, with tan, and ramed it down as fast as I planked it up till I came to the top of the frame. I then put on rafters of joists 4 or 5 inches square, and lined them and filled the space with tan, as tight as it could be ramed in, and then shingled the roof. The ends were boarded up, with a door at each end, for the convenience of filling the house. My house holds about 6 cords. I fill it with square pieces of ice, as close as I can pack them. I put nothing between the layers of ice, nor on the sides, nor do I break any in pieces to fill up the spaces, except broken pieces that will not make good stowage. I have filled the house to the top of the frame. I then fill the roof with shavings, and ram them down as tight as I can. I have had no difficulty in keeping my ice, and have spared as much as we have used, and have often ice in the house, when we clear it for filling afresh. I think shavings are better than straw, as they will not rot so soon by the dampness. I go to the ice house at any time of day, when ice is wanted. My ice house has no drains to it. Under the plank at bottom I rounded out a place lengthwise, about a foot deep, sloping towards the middle like an egg, cut in two lengthwise, which I think is sufficient to receive all the water that will waste from the ice.

I remain with respect,

Your most obedient servant,

Medford, Oct. 28, 1831. A Subscriber.

Mr. Fessenden,—In answer to your request for *practical* information on the subject of ice houses, I take the liberty of giving you a description of one, which I constructed several years since, at a moderate expense, and in which I have been perfectly successful in preserving ice through *the summer and autumn.*

A pit about 13 feet long and 9 feet wide was dug in level ground to the depth of 10 feet. The four walls or sides of the ice house consist entirely of *cedar.* Each wall is rendered double by nailing the boards horizontally to two opposite sides of joists, four inches square, placed perpendicularly at the distance of a few feet from each other. The interval between the boards is filled with tan, and a space of about 4 inches in width entirely around the building, on the outside, is also occupied by tan; so that the earth or soil no where touches the boards. Upon these walls, which are 11 feet in height, and of course project one foot above the surface of the ground, is placed a very sharp roof. This roof is also double, and the interval between the boards is filled with charcoal powder. It is painted white on the outside.

The aforementioned pit is divided by a double partition, filled with tan, into *two apartments.* In one of them, which is about 8 feet square, the ice is deposited. The other apartment is employed as an entry, at the bottom of which is a door, made double as aforementioned, for the purpose of taking out the ice from day to day. This entry, whose temperature in the lower part, is very uniformly that of cool weather in the autumn, is furnished with shelves for the reception of butter, meat, milk, &c. during the heat of summer, and is found to be extremely useful.

The ice is cut in blocks of regular form, and very closely packed, the interstices being filled with pulverized ice. All the space which remains above the ice, is filled with dry straw. A few cedar slabs form the floor on which the ice rests. There are several reasons for preferring *cedar* to other kinds of wood; and I did not find its expense to exceed that of merchantable pine boards. It would be convenient to have the entry a little larger than the one just described. Yours respectfully, P. Cleaveland.

Brunswick, Me. Nov. 3, 1831.

(From Loudon's Magazine of Natural History.)

THE ROT IN SHEEP.

Most of your readers are aware that by the frequent and repeated moistening of land the grass grows in abundance, much more quickly, and has a more luxuriant appearance, particularly when the weather is close and warm. It is this quickness of its growth which I think is the great cause of the mischief. When grown slowly, time is allowed for that bitter principle to be more fully elaborated, on which depends the good quality of our grasses, which is the case in a moderately dry season, and when also the disease does not make its appearance. But when, contrary to this, the grass grows too quickly to allow that change taking place, and it does not contain that bitterness, but has a more delicate appearance, or what is termed squashy, the sheep become diseased from the loss of that usual stimulus to the bowels, the bitter principle of well grown grass. In consequence of this they become torpid, the food not well digested, the secretion of bile sluggish; and here is the foundation of that mass of disease in the liver. How far this opinion may be correct I leave to the judgment of others; but should it prove so, the remedy will be simple when taken in the first place, that is, before the matter is formed in the liver. I presume that for the want of that stimulus to the bowels the liver does not perform its functions, and becomes overloaded with bile, part of which is again circulated with the blood; but in time, from its stagnation it becomes putrid, and matter is formed upon the liver, in small tubercles, which bursting into each other become abscesses, in which are found the hydatids or flukes. By what means they get there is at present a matter of conjecture. It is certain they are animalculæ, as they have been seen to move several hours after their removal from the sheep. It may be asked by some, how are we to know the rot in its first stage? The weather, the situation of his land, together with his own judgment as to the probability of the flock becoming diseased are the shepherd's best guides. The sheep, themselves, in an early stage of the disease will appear slothful, and their eyes dim, with a tinge of yellow; i. e. having a jaundiced appearance. In this state, I should give a few doses of mild mercurials, saline aperients, and then a mild bitter infusion, such as infusion of chamomile or of gentian, two or three times a day.

At the recent cattle show and Farmer's Fair, in Andover, (Mass.) two cows were exhibited, one of which, with feed from a common pasture, had given from the 2d of May to the 27th of September, 586 gallons of superior milk, being an average produce of four gallons per day. The other gave in the month of June, 17 quarts a day, and there was made from her milk in one month, *fifty* pounds of good butter.

MISCELLANEOUS.

(From the Portsmouth, N. H. Journal.)

NEW INVENTION.

We examined a few days since, a Gun, of handsome workmanship, the stock made in the usual manner, with no other appearance of a lock than the guard and trigger. It is on the percussion principle, and so constructed that with *once* priming it may be discharged *sixty times.* The ingenious inventer and maker of it is George W. Morse, now about *seventeen* years of age, son of Reverend Bryan Morse, of Haverhill, in this state. We are indebted to a correspondent of the State Herald, for the following particular description:—

The breech-pin as it is called, makes the outer boundary of the lock. The guard is divided into two parts. The anterior half serves only to complete the form of a common guard, and is immoveable. The other half acts as a lever, and is attached to the upper prong of the breech-pin and passes through a mortice which is made in the hammer. By drawing back this half of the guard, the hammer is drawn with it, and by this motion the gun is cocked.

There is a small spring fixed in the upper part of the breech-pin, which throws back the moveable half of the guard after the hammer is fixed for firing, so that the guard then appears to be entire. The hammer consists of a straight bar of steel, two inches long, and the fourth of an inch square, through which is a mortice, as above mentioned, for the moveable half of the guard to play in. The hammer is thrown forward by a spring which is in form of the letter U, and which is secured to the upper prong of the breech-pin at the posterior and under part. The hammer moves in a straight line, and strikes against the centre of the barrel. The trigger is secured to a pillar which is placed between the prongs of the breech-pin, and which also supports the hammer. It is shaped like the capital letter L inverted. A small spring under the fore part elevates the upper end of the trigger against the end of the hammer, which keeps the gun cocked.—In the operation of cocking the gun, the nipple (which slides into that end of the hammer which is nearest the barrel,) is drawn forwards one sixteenth of an inch. A space is thus made in the hammer directly under the magazine, and the priming falls into this space or cavity. The nipple is one fourth of an inch long, and one twelfth of an inch in diameter, with a cap large enough to cover the head of the hammer, and has a perforation in it large enough to admit a common pin. This hole makes a communication between the space in the hammer (which receives the priming from the magazine above,) to the charge in the barrel of the gun.—When the hammer is driven forward in the act of firing, the nipple strikes against the barrel, and is forced into a hole made in the hammer, where the firing is effected by percussion. The magazine contains sixty primings, and is so contrived that neither water nor dampness can penetrate into it.

The Editor of the Sporting Magazine, in his last number, gives the following advice, which may not be considered ill-timed, as on many large estates not a single partridge survived the great snow of last winter:

"Partridges.—It has been well suggested to put the question to all farmers and liberal sportsmen, whether it is not highly expedient to forbear the taking of partridges altogether the ensuing season? By that means only can the ravages of the last winter be repaired. No genuine lover of the trigger will draw one upon a partridge this fall. For ourselves we are determined not to buy or taste one until the fall of 1832."

Nothing is troublesome that we do willingly.

CLEANLINESS.

The author of "Journal of a Naturalist," speaking of insects, says—The perfect cleanliness of these creatures is a very notable circumstance, when we consider that nearly their whole lives are passed in burrowing in the earth, and removing nuisances; yet such is the admirable polish of their coating and limbs, that we very seldom find any soil adhering to them. The meloe, and some of the scarabæi, upon first emerging from their winter's retreat, are commonly found with the earth clinging to them; but the removal of this is one of the first operations of the creature; and all the beetle race, the chief occupation of which is crawling about the soil, and such dirty employs, are notwithstanding remarkable for the glossiness of their covering, and freedom from defilements of any kind. But purity of vesture seems to be a principal precept of nature, and observable throughout creation.—Fishes, from the nature of the element in which they reside, can contract but little impurity. Birds are unceasingly attentive to neatness and lustration of their plumage. All the slug race, though covered with slimy matter, calculated to collect extraneous things, and reptiles, are perfectly free from soil. The fur and hair of beasts in a state of liberty and health is never filthy, or sullied with dirt. Some birds roll themselves in dust, and occasionally, particularly beasts, cover themselves with mire; but this is not from any liking or inclination for such things, but to free themselves from annoyances, or to prevent the bites of insects. Whether birds in preening, and beasts in dressing themselves, be directed by any instinctive faculty, we know not; but they evidently derive pleasure from the operation, and thus this feeling of enjoyment, even if the sole motive, becomes to them an essential source of comfort and of health.

HOUSEKEEPING.

The true economy of housekeeping is, simply the art of gathering up all the fragments, so that nothing be lost. I mean fragments of *time*, as well as *materials*. Nothing should be thrown away, so long as it is possible to make any use of it, however trifling it may be; and whatever be the size of a family, every member should be employed either in earning or saving money.

If you have a greater quantity of cheeses in the house than is likely to be soon used, cover them carefully with paper, fastened with flour paste so as to exclude the air. In this way they may be kept free from insects for years. They should be kept in a dry cool place.

Instead of covering up your glasses and pictures with muslin, cover the frames only with cheap yellow cambric, neatly put on, and as near the color of the gilt as you can procure it. This looks better, leaves the glasses open for use, and the pictures for ornament, and is an effectual barrier to dust as well as flies. It can easily be re-colored with saffron tea, when it is faded.

The fumes of brimstone are useful in removing stains from linen, &c.; thus, if a red rose be held in the fumes of a brimstone match, the color will soon begin to change, and at length the flower will become white. By the same process, fruit stains or iron moulds may be removed from linen or cotton cloths, if the spots be previously moistened with water.

When plain tortoise shell combs are defaced, the polish may be renewed by rubbing them with pulverised rotten stone and oil. The rotten stone should be sifted through muslin. It looks better to be rubbed on by the hand. The jewelers afterwards polish them by rubbing with dry *rouge powder*, but sifted magnesia does just as well—and if the ladies had rouge, perhaps they would, *by mistake*, put it upon their cheeks, instead of their combs; and thereby spoil their complexion. FRUGAL HOUSEWIFE.

Take things always by their smooth handle.

MACHINERY AND CAPITAL.

We copy the following extraordinary statement from the Mechanics' Magazine; it speaks volumes.—"Mr. Crawshay's iron works. Number of persons employed, 5,000. Annual sum expended for labor £300,000. Number of horses employed, 450. Number of steam-engines, 8; each of 50 horse-power, but going night and day, doing the work of 21,000 horses. Water wheels 9, equal to the power of 954 horses. Furnaces, 84; each about 50 feet high and wide in proportion. Forges, 3. Foundry, 1. Rolling mills, 8. Boring mill, 1. Annually used for mixing with the iron ore, iron stone, 90,000 tons, lime, 40,000 tons. Annually consumed, coals 200,000 tons, gunpowder, 30,000 lbs., candles, 120,000 lbs. One hundred and twenty miles of tram-railway have been laid down for the use of these works, besides which there is a canal of several miles, with aqueducts, bridges, &c. Of tram wagons, made chiefly of iron, there are many thousand. Mr. Crawshay has lately built a castle for his own residence in the vicinity of the works, which covers an area of 174* square feet, and contains 72 apartments; the locks and hinges alone cost £700. There is a pinery attached to the castle, which is heated by steam, and costs £850 yearly; an extensive grapery also, that costs nearly as much.—*English paper.*

AN AMERICAN GOURD.

There is a gourd at the museum, the growth of the present season, under whose shade a modern Jonah or even Goliath might repose. It measures five feet four and a half inches in circumference, and weighs fifty-six pounds. It was raised in Hubbardston, by Mr. Aaron Greenwood, nephew of the superintendent of the museum, from seed brought by Mr. Moses G. from a place 700 miles west of Little Rock in Arkansas Territory.—*Traveller.*

The Journal des Connaissance Usuelles, states that several persons in France have been nearly poisoned by the use of mouldy bread, and it adds also, that in some instances death has been produced by rancid bacon.

THE FARMER.

BALTIMORE, FRIDAY, NOV. 18, 1831.

CLOVER MILL—SUNFLOWER OIL.—The clover mill at Spring Dale, (the residence of Charles A. Barnitz, Esq. some account of which we gave in our last,) is worthy of particular notice. It is one of the many improvements in agricultural economy effected by the publication of the American Farmer, as Mr. Barnitz had it made from a drawing and description published in the 6th volume of our journal. On examining the mill we determined to republish the article, which we do in the present number. We are induced to this by the consideration that we have a great many subscribers who did not take the Farmer when the article was first published, as well as for the purpose of bringing it again to the attention of old subscribers. The machinery is very simple, and occupies about the space of a common threshing machine, and costs about the same. It is fully described in another part of this number. Its advantages over the common mill are very great: it gets out the seed cleaner, and does not bruise it. Since Mr. Barnitz has had one in operation, all the other mills in the neighborhood have been stopped,—none being able to compete with it. This is the best possible proof of its excellence. Mr. B. has erected three machines, all turned by a band from the water wheel of a small grist mill. The clover mill is equally well adapted to getting out lucerne seed.

In the same building with the clover mill, is an oil mill for the extraction of linseed and sunflower oil. There is nothing peculiar in the extraction of linseed oil, except in the press. This is on the *wedge principle*. A long trough receives the crushed seed, which is pressed longitudinally by wedges driven perpendicularly by machinery. The advantage of this mode is derived from the continual alteration of the surface exposed to pressure.

The sunflower oil is extracted in the same manner as linseed, except that the seed is *hulled* by passing it through a machine for the purpose. Mr. Barnitz informed us that the production of linseed oil is declining rapidly, and that sunflower oil would soon supersede it altogether, as it is much more profitable to the farmer. The sunflower oil has been tried in paint, and found to be admirably adapted to it, as it dries with great facility. For lamps it answers a good purpose, and in some respects is superior to sperm, especially in its perfect freedom from all offensive smell. For the table we think it will certainly supersede olive oil, as it is much cheaper, and to many of a more agreeable flavor. For the last purpose we have used a great deal of it, and while we can get it shall certainly never use olive oil. By Mr. Barnitz's mode of extracting it he gets a gallon from every bushel of seed. This fact we have asserted in another place in the present number, and repeat it here to correct erroneous impressions that we perceive have been made on the public mind. Many persons suppose that they have only to take their seed to a common oil mill, and get a gallon of oil from a bushel; but this is a mistake; the seed must be freed from its hull, and to do this a machine (of the structure of which Mr. B. will give every information,) must be used. Mr. Barnitz has made a large quantity of this oil this fall, and showed it to us in all its stages. He at present gives 50 cents a bushel for sunflower seed, and gets a dollar a gallon for the oil. When the business gets established the price of seed will be considerably more or that of the oil less, as at the present prices a mill steadily at work would be very profitable; the oil cake nearly pays for the extraction of the oil, it being an excellent article of food for horses and cattle.

The chaff from the clover mill supplies an immense quantity of the finest manure for the farm. It is thrown into a large pile by the side of the mill, to rot, and is carried upon the land in the same manner as stable manure,—to which it is very superior. We should suppose that the addition of lime to this manure would be very useful.

SUNFLOWER OIL.—A correspondent of the New England Farmer, Mr. Joseph Mann, gives an account of an experiment in making sunflower oil, which was a complete failure; or rather an unprofitable job; and he thence concludes that the value of the article "has been overrated by at least one half." We beg Mr. Mann to be assured the fault to which the failure in his case is properly attributable was not in the sunflower, but in himself. He merely resorted to the old method of extracting the oil, by which every body knows only about two quarts of oil can be obtained from a bushel of seed. As long ago as 1758 sunflower oil was made on this plan and with this result, and Mr. Mann had no reason to expect a better product from the same process. The process he used was grinding and pressing the seed, by both cold and hot pressure, and the most he could obtain was two quarts. Now we can put him in the way of extracting FOUR QUARTS of oil from a bushel of seed, and with the hope of inducing him to make another trial we will do so. The new process for extracting this oil, the credit of which belongs to Charles A. Barnitz, Esq. of York, Pa. is to clear the seed of the hull or shell and press the kernel by itself. The hull may be taken off readily by running the seed through a buckwheat hulling machine, or any other mill, the stones of which can be kept so far apart as merely to crack the hull as the seed passes through them. The great obstacle heretofore met with, in extracting this oil was the absorbing quality of the large quantity of hull. This is removed in the new process of Mr. Barnitz, and if Mr. Mann will try it he will find that his own "wrong impressions" stood most in need of correction.

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* This of course is a typographical error, but we have no means of correcting it—174 square feet would be a small area for a *castle.*—Ed. Amer. Farmer.

Second Growth of Apples.—We have a specimen of apples of the second growth, presented by Dr. R. G. Stocket of Elkridge, Md. They grew in clusters of five or six, and the largest is about an inch and a half diameter. What is must remarkable, is that the tree had some of the first crop remaining on it when these of the second were gathered. It is a late fall apple.

Large Potatoes.—Dennis A. Smith, Esq. has left at our office three potatoes weighing respectively 12, 13, and 20 ounces. They are not as large as those grown by Mr. Lindsay near Washington, and noticed in No. 34; but they are sufficiently remarkable for record.

Prices Current in New York, Nov. 12.

Beeswax, yellow 20 a 22. *Cotton*, New Orleans .10 a .12½; Upland, .7 a .10; Alabama, .8 a 11. *Cotton Bagging*, Hemp, yd. 14½ a 17; Flax 13 a 14½; *Flax*, American, 7 a 8.——*Flaxseed*, 7 bush. clean .—— a ——*Flour*, N. York, bbl. 5.43 a 5.56; Canal, 5.81 a 6.00; Balt. Hwd. st. 5.75 a 5.87; Rh'd. city mills —— a 6.12; country, 5.50 a ——; Alexand'a, 5.50 a 5.62; Fredericksburg 5.37 a 5.50; Petersg. 5.50 a 5.62; Rye Flour, 4.37 a 4.50; Indian Meal, per bbl. 3.62 a ——; per hhd. 17.00 a ——; *Grain*, Wheat, North, 1.12 a 1.18; Vir. 1.10 a 1.18; Rye, North, 92 a 94; Corn, Yel. Nor. 70 a 72; Barley, 1.28 a ——; Oats, Sth. and North, .42 a 47; Peas, white, dry, 7 bu. 5. Beans, 7 bu. 7.00 a 8.00; *Provisions*, Beef, mess 7.25 a 7.50; prime —— a 5.00; cargo —— a ——; Lard, 10 a .11; Pork, mess, bbl. 11.00 a 13.50; prime —— a 10.00.

BURLINGTON NURSERY, NEW JERSEY.

The subscriber has on hand a large and handsome assortment of Fruit Trees, Apple, Peach, Pear, Plum, Cherry, Apricot, and Nectarine; as also Grapevines; Forest Trees, Evergreens, Shrubbery, &c. &c. &c. For particulars see catalogue which may be had at the office of the American Farmer.

CALEB R. SMITH.

TO THE PUBLIC.

Having assured my friends and patrons that should I ever find it necessary to lower the prices of my PLOUGHS, that I would give public notice thereof, that every gentleman may know the price he will be charged before he sends his orders—I therefore submit the following reduced prices to the public, which will be my charge from the date hereof.

Balt. Sept. 17, 1831. J. S. EASTMAN.

No. 6	a small Seed Plough, - -	$4 50
7	also a seed do. - . -	5 00
7	improved and a heavier Plough, -	5 50
7	Bar Share for stony land, - -	6 00
8	one or a small two horse Plough, -	5 50
8	large size improved small 2 horse do. -	6 00
8	Bar Share for rough soil, - -	6 50
9	small 2 horse Plough, called the poney do.	7 00
9	large size heavier Plough improved, -	7 50
9	Bar Share Plough for rough soil, -	8 50
	Sword Coulter for the same $1.50.	
10	a large 2 horse or small 3 horse plough,	9 00
10	Bar Share for rough soil, - -	11 00
	Sword Coulter for the same $1.75.	
12	a large three horse Plough, - -	14 00
	Sword Coulter for the same $2.00.	

For sale improved Barshare Plough, and the Scotch Plough improved by Geo. Glezy, together with his usual assortment of AGRICULTURAL IMPLEMENTS and Grass Seeds. He has also received by ship London Packet, a fresh assortment of GARDEN SEEDS, which are believed to be of superior quality. J. S. E.

NEW CLOVER SEED.

Just received and for sale by the subscriber, a few bushels of new cloverseed, of first quality.

BUFFALOE BERRY TREES.

The subscriber will receive in a few days a few of the new and beautiful fruit trees originally from the Rocky Mountains, mentioned in No. 5, vol. 13, Amr. Farmer, called *Buffaloe berry tree*, or Shepherdia. This is one of the most beautiful of all ornamental trees, bears delicious fruit, and is perfectly hardy—*price* $1 *each.*

BULBOUS FLOWER ROOTS.

The subscriber has for sale a small but elegant assortment of Tulips, early double and single Van Thol, and common kinds; Crown Imperials and Persian Fritillaries; Polyanthus narcissus, yellow and white fragrant; Yellow fragrant and White fragrant; Double and single fragrant Jonquils, &c.

A few of his splendid collection of new Pæonies and Hemerocalises yet on hand. GIDEON B. SMITH,

Office Am. Farmer.

FRUIT, ORNAMENTAL TREES, SHRUBS, AND PLANTS.

SINCLAIR & MOORE,

Inform their friends and the public generally, that their stock on hand this season is large, of thrifty well grown trees, except those marked on the catalogue. The fruit in this establishment are all carefully grafted or inoculated mostly from bearing trees, of the choicest collection of American and European fruits.

This nursery will afford purchasers in our own state the important advantage of planting their trees on the first, second, or third day after they are taken out of the ground, (provided the holes for the trees are previously dug, which they always ought to be,) having quick transportation to most every part of the state.

Printed catalogues for this season describing the names of plants, time of ripening, and price, as also directions for planting, to be had gratis at their Plough and Seed Store, Pratt street wharf, Baltimore, or at their Nursery, three and a half miles east of the city, between the Philadelphia and Bellair roads; the best and nearest way to go to it is by going out the latter road two miles, to a pointer of further direction. The senior partner resides on the premises, and constantly superintends the same, and would be pleased to see persons disposed to encourage, or view their extensive collection, where they can see and choose for themselves.

For the information of those who are not in possession of a catalogue, they will mention some of the principal articles ready for sale, to wit:—

Apple, Pear, Peach, Plum, Cherry, Apricot, Nectarine, Fig, Gooseberry, Currant, Raspberry, Strawberry, Quince of sorts—Grape Plants, fine size, many choice kinds, Thorn and Honey Locust for hedges.

ORNAMENTAL TREES.

English Elm of middling and extra large size.

Italian White Mulberry, of do. and large do.

Horse and Spanish Chestnut.

Linden and Sugar Maple Trees, Paper Mulberry, Abeal or Silver leaved Poplar, Yellow and Honey Locust, Chinese Aleanthus, or tree of Heaven, English Walnut, Mountain Ash, Buttonwood, Black Walnut, &c. &c. Balm of Gilead, or Silver Fir, White or Waymoth Pine, Dwarf Box, Cutting and Rooted Plants, Black Double Spruce, Arborvitæ.

ORNAMENTAL SHRUBS.

Roses, both hardy and Chinese or ever blooming, a good assortment, Double Althea a superior collection, Linock five kinds, Snowberry Tree, Grounsel Trees, Roseacacia, Corchorics, Scarlet Trumpet Creeper, White Flowering Virginbower, White Flowering Jasmine, Yellow Flowering do., Scarlet Trumpet, Monthly Honeysuckle, White Striped Monthly do. of exqùi site fragrance, Multiflora Rose, Graville's Superb Multiflora, cuttings of Grape, Apple, Peach, &c.

Oct. 14.

DURHAM SHORT HORN CATTLE.

For sale several Cows and Heifers of the above breed, full blooded, and also others of different grades of blood. Apply to the Editor of tho American Farmer.

BALTIMORE PRICES CURRENT.

Baltimore Market.—A slight advance will be noticed in flour and wheat. Yesterday the price of Howard street flour from wagons was $5.37½. The quantity coming in very small. A proportionate advance in wheat has taken place. A reduction of about three cents has taken place in wool of all grades.

Tobacco.—Seconds, as in quality, 3.00 a 5.00; do. ground leaf, 5.00 a 9.00.—Crop, common, 3.00 a 5.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 10.00; yellow and red, 8.00 a 14.00; yellow, 14.00 a 16.00.—Fine yellow, 16.00 a 20.00.—Virginia, 4.00 a 5.00.—Rappahannock, 3.00 a 4.00——Kentucky, 3.50 a 8.00. The inspections of the week comprise 485 hhds. Md.; 74 hhds Ohio—total 559 hhds.

Flour—best white wheat family, $6.75 *a* 7.25; super Howard-st. fresh $5.43¾ *a* ——; city mills, fresh 5.00 *a* 5.25; Susq.— *a* —; Corn Meal bbl. 3.50; Grain, Md. red wheat, 1.00 *a* 1.08; white do. 1.10 *a* 1.20, Susq. — *a* —Corn, white, 53 *a* 55—yellow 53 *a* 55—New Corn 45 *a* 48—Rye, 75 *a* 77—Oats, 36 *a* 38. Beans, 75 *a* 80—Peas, 85 *a* 70—Clover-seed 5.50 *a* 6.00—Timothy, 2.00 *a* 2.50—Orchard Grass 1.50 *a* 2.00—Tall Meadow Oat Grass 2.00 *a* 2.50—Herd's, 75 *a* 1.00—Lucerne — *a* 37½ lb.—Barley,—Flaxseed 1.3-8 *a* 1½-Cotton, Va. 8 *a* 9-Lou. 9 *a* 12-Alab. 9 *a*. 11-Tenn. .8½ *a*. 9½; N. Car. 8½ *a* .9½-Upland 8 *a* 10—Whiskey, hhds. 1st p. 33½ *a* 34; in bbls. 35 *a* 36——Wool, *Washed*, Prime or Saxony Fleece 49 *a* 57; American Full Blood, 47 *a* 55; three quarters do. 41 *a* 47; half do. 35 *a* 41; quarter and common do. 32 *a* 35. *Unwashed*, Prime or Saxony Fleece, 30 *a* 34; American Full Blood, 27 *a* 30; three quarters do. 25 *a* 27; half do. 22 *a* 25; quarter and common, 19 *a* 21——Hemp, Russia, ton, $255 *a* —; Country, dew-rotted, 5½ *a* 7c. lb. water-rotted, 7 *a* 9c.—Feathers, — *a* —; Plaster Paris, per ton, 4.50 *a* ——, ground, 1.37½ *a* —— bbl. Iron, gray pig for foundries per ton 33.00 *a* ——; high pig for forges, per ton, 28.00 *a* 30.00; bar Sus. per ton, 72.50 a 80.00.—Prime Beef on the hoof, 4.25 *a* 4.50—Oak wood, 3.50 *a* 3.75—Hickory, 4.50 *a* 5.00—Pine 2.00 *a* 2.25.

CONTENTS OF THIS NUMBER.

On the Culture of Clover and Cotton, by John E. Calhoun—On Raising Grain on Light Soils—On Planting (from the Library of Useful Knowledge, &c.) Of the Sap; Food of Plants; &c. &c.—Some Observations on the Rationale of the action of Oil on the Fig in hastening its maturity; by Dr. J. A. Johnson—Description of Burrall's Clover Machine, with a diagram of the machine—On the Construction of Ice Houses—The Rot in Sheep—New invention of a gun—Hint respecting the Destruction of Partridges—Cleanliness—House Keeping—Machinery and Capital—An American Gourd—Editorial, Clover Mill, Sunflower Oil; Sunflower Oil; Second Growth of Apples; Large Potatoes—Prices Current in New York and Baltimore—Advertisements.

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TERMS.

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2. Subscriptions are in all cases charged *by the year*, and never for a shorter term.
3. When once sent to a subscriber, the paper will not be discontinued without his special order; and then not till the end of the year of his subscription that shall be current at the time of receiving such order; except at the discretion of the publisher.
4. The risk of mail in the transportation of both the paper, and of bank notes sent in payment for it, is assumed by the publisher.
5. Advertisements connected with any of the subjects of the American Farmer, inserted once, (seldom more) at one dollar per square.
6. All letters concerning this paper must be directed to the publisher. They must be free of postage, except communications intended for publication, and letters containing money.

☞ All Postmasters are requested to act as agents for the Farmer; they are authorised to retain $1 for each new subscriber, and 10 per cent. on *all other* collections.

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AGRICULTURE.

(From the Library of Useful Knowledge.)

PLANTING.

(Continued from page 284.)

CHAPTER III.

Of the different modes of rearing forest-trees:—By sowing the seeds on the spot where they are to remain for timber. By sowing the seeds on nursery beds, and afterwards transplanting the young trees to their timber sites. Modes of propagating and of transplanting, preserving, and training, proper shoots or suckers produced by coppice roots or stools. Comparative advantages and disadvantages of the different modes; and of simple and mixed plantations.

Before the seeds of forest-trees are sown on the spots where the plants are to remain for the produce of timber, or the young trees are transplanted from nursery beds to their timber sites, the land should be fenced and properly prepared for their reception. As fences, however, are constructed of various materials, turf, or earth, stones, wood, and thorns, or other armed shrubs, and the judicious adoption of the best kind of fence depending on local circumstances, this part of the subject, perhaps, may be more conveniently discussed under a separate head. It has been supposed, with good reason, but certainly without the evidence of such clear and undisputable facts as are absolutely necessary to bring full conviction to practical men, that when forest-trees are reared immediately from seed, and consequently whose tap roots, proper roots, and rootlets have never been disturbed or curtailed, they grow faster, attain to earlier maturity, and produce sounder timber, than such as are transplanted from nurseries. The facts brought forward respecting the structure and growth of trees confirm this opinion; but when useful or profitable planting is the object of the planter, it is necessary to inquire whether these apparent advantages are not lost for the most part, or entirely, in the extra cost or expense which attends the execution of this method, in comparison to that of transplanting; or whether the extra feet of timber, that may be thus gained, will repay with profit the increased cost of production. A detail of the different processes of these two first-mentioned modes of rearing forest-trees may assist materially in coming to a just conclusion on this important question. The oak being one of the most valuable of forest-trees, and its roots penetrating more directly, and to a greater depth in the sub-soil than those of any other tree approximating to it in value, it has been thought to suffer great injury by transplanting, and has, therefore, been chiefly insisted upon to be raised immediately from seed on its timber site.

Should the land on which it is intended to rear oak immediately from seed, be not in a clear state of tillage, it must be brought into that state by the most eligible means; these, of course, will depend on the nature of the soil and condition of its surface. If the soil to be sown is clayey and tenacious, retentive of moisture, and covered with coarse plants, as sedges (carix,) rushes (juncus,) thistles (carduus,) and turfy hair-grass (aira cæspitosa,) the surface should be pared and burnt, the ashes carefully applied, and the soil ploughed as deep as the nature of the sub-soil will permit. It should have a clear out summer fallow, with repetitions of cross ploughings and harrowings, as often as is necessary, to bring the land to a friable and deep tilth. It should be ploughed into ridges twelve feet wide, sufficiently high to give an inclination from the crowns of the ridges on each hand to carry off all surface water, and be well water-furrowed. A dressing should be applied of compost of dung, coal ashes, road scrapings, sand, &c., or any other manure that can be procured, which may have a tendency to divide the texture of the tenacious soil, and make the tilth friable and deep. This part of the process will be found highly useful, and also necessary to insure a well founded hope of success. An application of lime, when it can be procured at a reasonable cost, will also be found highly useful.

Should the effects of these operations have been powerful enough to bring the land to the essential condition of cleanness, depth, and fineness of tilth required, the soil will be ready for the reception of the acorns in the spring. Unreclaimed lands, however, of this description can seldom be prepared as above by the out summer's fallow only; and in such cases it will be necessary to continue the process of fallowing for another season. A green crop fallow may be now adopted; and should the weather be favourable, the crop will probably cover the expense of cleaning for that season, or at all events considerably lessen the cost of fallowing. The choice of the crop to be employed must be determined by the condition or adaptation of the soil to certain kinds of green crops, and the greater local demand that may be for one kind of produce more than another. The following may be pointed out: Swedish turnips, rape, potatoes, cabbages, and winter vetches. For these crops it may be unnecessary to add, that the row and ridge system of culture should be adopted, as affording the greatest facilities for cleaning and pulverizing the land, either by the hand or horse-hoe, and thereby obtaining the great objects in view in their most perfect state, and at the least comparative cost. Green crops are here mentioned for fallow, because they exhaust the soil less than corn crops, and also afford the means of destroying every kind of weed much better; but if a corn crop should promise better advantages than a green crop, and secure the cleaning and pulverization of the soil, there can be no possible objection to it, the extra manure given with the corn crop supplying the loss supposed to be caused to the soil. As soon as the crop, of whatever kind, is reaped and carried, advantage should be taken of the first favourable weather to have the surface scarified, horse-hoed, or skim coulter ploughed (according to circumstances of convenience, in the possession of one or other of these implements,) and the weeds collected by the harrow, and by the hand if necessary. It is, in this case, the safest mode to burn the weeds, for their seeds and the eggs of insects are thereby more certainly destroyed. The land should now be ploughed up to stand the winter's exposure. The mode of ploughing is of importance at all times, but most particularly so when the full effect of frost and winter weather is required to divide and ameliorate an adhesive clayey soil. When the furrow slice of a soil of this description is reversed, or laid quite flat, the weight and tenacity of the soil consolidate its surface almost immediately, and obstruct the action of the weather in breaking down the texture of the soil, as well as that of the harrows in raising a tilth, or the greatest depth of mould for covering the seeds. But when the furrow slice is raised up so as to lie at about an angle of 45°, the greatest possible surface of the soil that ploughing can accomplish is exposed to the direct influence of the atmosphere in the most effective manner.* As soon as the weather will permit in February, the harrows should be used to raise as deep a tilth as possible; and when this mould is in its driest state, the last ploughing should be given: the reversing of this comparatively dry and ameliorated mould to the bottom of the staple of the soil is of great advantage to the growth of the plants. By the beginning of March favourable weather will have occurred to use the harrows so as to obtain a proper depth of surface mould in which to sow the seeds; but it is essential that the greatest possible depth of mould be obtained, though the time of sowing be delayed until the middle of that month, but which should be avoided if possible.

There are two distinct varieties of the British oak, differing in the quality of the timber and quickness of growth. In collecting the acorns for sowing, therefore, it is of consequence to select those of the most valuable variety. The discriminating characters of these will be pointed out hereafter, when we enumerate all the different species and varieties of forest-trees: here it will be sufficient to mention, that the most valuable variety of the oak is distinguished by having the acorns on footstalks (*Quercus Robur pedunculata,*) and the less valuable variety by bearing the acorns without footstalks (*Quercus Robur Sessiliflora.*) If it were possible to have the land in a fit state for sowing in autumn, as soon as the acorns were ripe, and the attacks of mice, birds, and insects upon them could be securely guarded against during the winter, the autumn would be doubtless the most favourable season for sowing; but as this can seldom be done, the acorns must be carefully preserved until spring, by spreading them out in a thin layer on a dry, cool floor. When placed in sand, unless the same be perfectly dry, the acorns are apt to vegetate; and the same thing happens when they are placed in heaps, or in too thick a layer.

The land being thus prepared for the reception of the seed, and the acorns ready, drills or furrows should be drawn with the hand-hoe two inches deep, and at intervals of four feet. In order that the rows of plants may not obstruct the surface-water from passing off by the declining sides of the ridges, a point of great importance in this kind of soil; the furrows for the seed should be at right angles to the ridges. The one-horse drill which, under other circumstances, would be the most economical mode of drawing the drills, is inconvenient here, on account of the curve of the ridges and the open drains in the furrows, over which the drill would have to pass.* The acorns should be dropped in the furrows at about two inches apart: this thick sowing is to guard against the numberless casualties which thin them in the course of their vegetation in an exposed field or common, and also to allow the selection of the strongest seedlings to stand for timber—a part of the duty of the planter requiring great attention, and which hitherto has scarcely been attended to, or but incidentally. The acorns should be carefully covered with two inches depth of mould. The back of a large wood-rake will be found to fill up the drills effectually and with dispatch. As soon as the young plants appear above ground, the soil should be hoed, and every appearance of weeds destroyed. Hand hoeing must be repeated as often as weeds appear, or the surface of the ground becomes hardened, in fact the land must be kept in as clean a state, and as free from weeds, as the best managed seedling beds in a nursery garden, or disappointment and failure in a greater or less degree is certain to follow. The surface of a soil of this description, as regards the successful germination of seeds and growth of seedling plants, requires to be kept always in a friable, loose state; for if once it becomes hardened and cracks, the seedling plants will be injured, their leaves assume a pale sickly hue, and their growth will be greatly retarded. Where the plants are suffered to remain long in this state, the sap vessels become contracted in the bark and leaves, and the plants never regain that vigour of constitution which, in this stage of their growth, is so essential to their future perfection. The stem and branches remain stationary, until the roots, by the influence of a favourable season or two, sometimes force a new stem from the base of the stinted one, which in the course of one year overtops it, and becomes the stem or body of the tree; the original stem, taking the place of a secondary branch, soon disappears altogether. This is the invariable consequence when the growth of the plant, under these circumstances, is left to the unassisted efforts of nature—a fact upon which is founded the practice of cutting down to the surface of the ground stinted young plants, in order to produce superior stems, which always succeeds with the oak, chestnut, and ash, but never with coniferous trees of pine and fir.

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* "Hally's plough" is admirably constructed for this mode of ploughing.

It may be supposed that the preparation of the soil has here been too minutely dwelt upon; but being a part of the subject of considerable importance, in many instances too little attended to, and from the neglect of which failures of considerable extent have had their origin, as regards this mode of rearing oak trees, we have ventured to state thus much on the point.

* These drains are recommended to be made immediately after the ridges are formed, that the land may have the benefit of their free action a twelvemonth at least before the sowing of the seeds.

During the summer of the second year, the plants which have escaped the attacks of the enemies before alluded to will be strongly marked in the rows, and the horse-hoe may now in consequence be substituted for the hand-hoe: this will be found very beneficial as attaining the great objects of perfect weeding, pulverizing, and rendering friable and porous the surface of the soil at a diminished expense. The rows, however, will require to be looked over and handweeded with care.

Should the plants stand nearer to each other than one foot, they must be thinned out to that distance in the spring of the third year of their growth. In this process it is of the utmost importance that the smaller and least healthy looking plants should be taken out, and those left which indicate the possession of a vigorous constitution, without regard to the mere circumstance of exact distances. When a plant has a robust stem, clear bark, and a plump leading bud, we may consider it as certain to produce a fine tree, or to contend with most success against natural defects of soil and climate, and accidental injuries. To protect young oaks against uncongenial climates, the best method is to plant nurse-trees of quick growth, and well adapted to the soil, amongst them. An artificial climate is thus produced, and to a certain extent, also, the soil is ameliorated by the roots of these nurse-trees running near its surface, while the oak has its roots obtaining nourishment from below; the former, acting as drains, assist the growth of the oak, until its own roots and stem have acquired sufficient strength and dimensions to resist with effect the various unfavourable circumstances above alluded to. In soils suitable to oak this is not always necessary; but deficiencies of soil and climate are generally remedied by the judicious planting of nurse-trees, of which we shall treat more particularly hereafter. The keeping down of the weeds, and the pulverizing of the soil by the hoe, being unweariedly attended to, the young trees will make rapid progress, and will require to be thinned out to four or five feet on an average in the rows, in the fifth year from sowing, when they will have reached that period at which the opposite and more general practice, that of transplanting from seed beds to the timber sites, begins; and as the subsequent culture, pruning and thinning, is the same in both instances, to be treated of separately, we shall proceed to consider the rearing of forest trees by transplanting. No greater error exists in the planter's art than the doctrine that trees should be raised on the same quality of soil as that to which they are to be transplanted,—as if a robust, healthy plant were less likely to withstand its subsequent casualties of situation, soil, and local climate, than a weaker plant with contracted sap vessels—the invariable consequence of a poor seed-bed soil. What is the intention of all the various processes of culture which have been just described as essentially necessary to the raising of oak from the acorn on a damp, cold, clayey soil, but to *enrich* the soil, and render the seedling plants vigorous and healthy? and with how much less labour and expense can this be effected in a nursery bed of clean fresh soil, of whatever nature or texture, than on the extensive site of an intended plantation of forest trees?

Experience fully confirms that principle of vegetable physiology which teaches that robust, healthy plants, whether in the seedling stage of growth or of a larger size, succeed better than those of stinted growth, even when transplanted to the least favourable soil and exposure.*

Where the land to be planted with forest-trees is an extensive tract and remotely situated, and where the seeds of the several kinds can be procured genuine, of good quality, and at a small cost, the formation of a private nursery may be advisable; but where the plants can be procured from a reasonable distance, it will be found the most economical and effective to purchase them from the nurseryman, and even in the former case one or two years' seedlings should be procured in place of seeds, as a saving of time and expense. The following are essential points to be considered in establishing an effective nursery: fencing, shelter, aspect, soil, and management. The fence of a forest-tree nursery requires to be *rabbit-proof*, or loss and disappointment are almost certain to follow. A foundation of brick-work should be made for a superstructure of close paling. Where shelter is not an object, a very cheap and excellent substitute is found in iron wire-netting, which is manufactured for the general purposes of fences to young plants. *Shelter* is indispensable to the free growth of seedling plants, the injurious consequences resulting to which from sudden checks have already been mentioned, as also the bad effects of confined air to the health and prosperity of trees in every stage of growth; and therefore, at the same time that a full protection against cold, bleak winds and unfavourable aspects is necessary, a full and free circulation of atmospheric air must be secured, to allow of a well-grounded hope of success.

The *soil* of the nursery must be of an intermediate quality as to moisture and dryness, not less than eighteen inches deep to the subsoil, and under a south-east, or west exposure, or intermediate points of, these. The varieties of soil required for particular kinds of trees will have to be supplied where the natural soil is deficient, as has already been specified when speaking of the seeds of trees.

(To be continued)

SQUASHES.

The Camben (S. C,) paper mentions a squash vine at Hanging Rock Creek, which bore ten squashes. One measured six feet six inches in circumference and 122 lbs.; another measured five feet ten inches, and weighed 96 lbs. This beats every thing! They must have been mammoth pumpkins.

Experiment in Kitefoot Tobacco.

Hickory Grove, Hampton county, N. C.
Mr. Smith: *Nov. 11, 1831.*

Sir,—I made an experiment last year on some of our common kitefoot tobacco, for the purpose of procuring good smoking tobacco early, and I think I succeeded, as my tobacco at the end of two months from the time it was cured, was as good and mild as that I have generally been in the habit of using of two or three years old. It consists mostly in managing it in the field.

COTTON—SINGULAR PRODUCT.

I beg leave to state a circumstance which perhaps is novel in its nature, and hope that some of your numerous and intelligent subscribers will attempt to account for it. About six years ago I procured from a friend near Milledgeville, Georgia, some Mexican cotton seed, which I have continued to propagate with success. The last year I discovered some naked seed which had fallen from the boll on the ground, and I also found some cotton containing seed which by slightly rubbing in my hands easily separated from the cotton, and were also perfectly naked like those which had fallen on the ground. Last spring I sowed the seed in my garden, and strange to tell, the product of those seed which were found on the ground, is seed only, not a fibre of cotton to be seen in the hull: whilst those which I rubbed out of the cotton have produced cotton of a very good staple, and in the usual quantity—the seed being entirely changed from naked black to good green seed intermixed with some white seed. The summer of last year was a remarkably dry one, that of this year a remarkably wet one. I shall continue to sow the seed abovementioned for the purpose of ascertaining if any further changes will occur, and I shall send some of the naked seed to Mississippi by a gentleman who has promised to make an experiment of them there. Whilst on the subject of cotton, and as a number of essays on extraordinary productions of other things have appeared in the Farmer, I will give the product of a single seed of cotton, Mexican, which grew on my farm in the year 1825, and I believe there were some stalks which produced more—the one I speak of being found whilst walking through the cotton without an intention of selecting the best. It contained 96 full grown open bolls or pods—92 of which was picked out having been broken off by a gentleman before it was picked out and carried away, that is 84 of good white, and S of yellow cotton, weighing 15 oz. seed cotton, which after being well dried by the fire and hand picked, weighed 4 oz. down weight, (spinners weight) and contained 2426 seed, being 26 seed to the pod or boll. There were 48 unripe pods and forms which were frost bitten. I also discovered a stalk without a ripe boll or pod on it, containing 212 small pods and forms.

Respectfully, your most obedient,
W. B. Lockhart.

(From the New York Farmer.)

PLANTING CORN FOR GREEN FEED.

Mr. Fleet,—Sir, Every actual experiment which results favorably to agricultural improvement, will, I presume, be considered worth communicating to the public. In this view I lay before you the following.

For two or three years past I have experienced a difficulty in keeping up a supply of green feed to cut for my cattle in the hot and dry months of July, August and September; and to obviate this difficulty I adopted the plan of planting corn to cut up and feed green, instead of grass.

My method was this:—

In April I manured about an acre of turf land, which had been pastured for three or four years, with about fifty cart loads of coarse manure, this I ploughed under as deep as the soil would admit, ploughing a furrow, and then raking in the manure, so as to completely cover the whole; the soil was a light loam, on a sand or gravelly bottom, that admitted of ploughing from 8 to 10 inches deep.

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* It is difficult to give a definition of what is termed a *robust, healthy plant*, so as to apply to every species of tree wherein the habits of growth vary in every individual species. The points of excellence cannot be estimated statically, or by weight and measure, but comparatively. A number of minute discriminating characters, collectively, are readily distinguished by the eye, but when taken separately cannot be usefully described in words. A robust, healthy plant, not exceeding five years growth, may be said to have equally divided roots. the principal ones of moderate length well furnished with secondary rootlets, and these with numerous fibres; the stem straight, and possessing a girth or diameter proportionate to its length; the bark clean, with an epidermis on the young wood exhibiting fissures, as if bursting or giving way to the increasing size of the parenchyma, particularly in the season of spring or autumn; the buds full in size and not crowded; the leaves perfectly shaped, and of the natural colour. The opposite of this state, from the effects of a poor or ungenial soil, exhibits all these characteristics in a diminished form and number; the opposite extreme or unhealthy state of a plant, from the effects of overrichness or soil, may be supposed; for in our experience we have never met with an instance of the kind, to have all these parts of the structure in an enlarged excess.

It was then well harrowed three or four times (rolling would have helped it, but I had not the convenience of a roller at hand,) and furrowed one way only, the usual width for planting corn.

I then planted in the furrows, hills of two or three grains, every fourteen or fifteen inches.

Early in July I commenced cutting, taking out three hills and leaving one, this finally left about the usual crop of corn on the acre.

From the corn thus cut out, and by topping a part of it, when I had finished cutting out, I fed three cows and a horse through the months of July, August and September, and my crop of ripened corn on the same acre is about eighty bushels of good sound ears; I have husked and measured a part of it.

It will be obvious that my corn could be ploughed only one way, and in fact it was ploughed only once and hoed once, partly for want of time, and the soil being good, and season favorable, I found it grew well without further care.

I perhaps ought to have premised that for four years past I have kept three cows, a horse and two hogs on an acre and a quarter of grass land to mow, and about two acres of pasture as a range for the cows.

This season I commenced feeding green feed on the *second* day of May, and the acre and a quarter amply fed the horse, cows and hogs till I commenced cutting the green corn in July, and in addition to their feed, I made upwards of a ton of excellent hay.

The horse is kept constantly in stable and the hogs in pen; the hogs are fed regularly, three times a day, same as the cows, with green feed, and will make at least twenty loads of excellent manure, and what is more, give my neighbours no trouble.

In England, where a highly cultivated and improved soil, and a constant moisture and coolness, adapted to grass, afford a constant supply of green feed, *soiling*, as it is termed, is attended with no inconvenience; in the heat and dryness of our summers, a substitute for grass must be found; this I think is found in our invaluable corn crop; and on the plan adopted by me, we not only have the green feed through the months of July, August, and September, but we have a good crop of ripe corn to gather in.

Most of my grass land is mowed three times, and some of the best of it four times in the season.

The union of the two crops, grass and corn, is doubtless the best possible plan of obtaining the greatest and most regular supply of green feed, and probably yields the utmost possible value that land can be made to yield in the pasturing of cattle. R. L.

(From the Genesee Farmer.)

THE FARMER.

There are some spry farmers, who are so brisk and active, that in going on their farm, you would think that they had hardly any thing to do. Look at their operations.

They cut their hay early, before the July rains bleach it. They cut their wheat, and get it in dry, before the seed is likely to fall out. Their flax is pulled; a part before the seed is fully ripe. Their Summer fallow is not put off till fall. They cut their corn stalk tops, while the blades are green,—which should be well cured and kept to give cows and sheep. Their corn then receives the warmth of the sun which causes it to ripen before the frosts pinch it, or the fall rains mildew it. They cut up the buts with the ears on, and carry these to the barn, and husk out the ears, and take care of the husks and buts, which in the depth of winter, the cattle will eat without getting *dyspeptic*. This practice of cutting up corn on the hill, leaves the ground clear of rubbish; and saves hay for the use of March and April, two months when cattle require feeding with the best hay you have. Potatoes indicate by their tops when ripe, then pull them; and, if you live in an honest neighbourhood, bury them up in heaps, on some elevated spot, where the water cannot injure them, that being a better way than to throw them into a damp or a freezing cellar. If you have an orchard, pick your apples from the ground in a clean state; rejecting all the rotten and wormy ones; you cannot make good cider if you are a *sloven*.

Look at an active, spry farmer. He breaks his fast, ere the sun shows his face;—and, when he has deposited his vote in the ballot box, he has very little to do on his farm; because it is all done up timely and neatly.

Let such a farmer cast his eye into his wood-lot. There is a great interest even in a wood-lot. You in the first place, cut all the under brush by the roots, with some old axe, whose best days are past; and cut and pile up all the fallen timber: some of this, by splitting and drying, may answer to mix with sound wood, and do very well; if wood is not scarce, you must not throw it away; even your brush makes good wood for many uses. This under-brushing and piling up all the dead timber enables you to pass among the trees with your teams with ease. You then select all the trees, as you need them, which have dead limbs, or are encumbered with too many branches. Thus year after year, you keep selecting, until your timber presents a most beautiful appearance. All the trees are vigorous, and from gradual exposure, there is little danger of their being prostrated by the winds; against prevailing winds, you should guard your trees by leaving the most stubborn on the windward side, to guard the others.

Who will say that such a farmer is ever pestered with a sheriff or constable at his door? The tax-gatherer never calls on such a man but once.

(From the New York Farmer.)

IMPROVED SHORT HORNED CATTLE.

Carpenter's Hall, Lancaster, Pa. Jan. 22, 1827.

Dear Sir,—After a period of nearly five years in breeding Short Horned Cattle, I venture to give my opinion, as far as my experience will allow.

The crosses between the Short Horned and our native cattle, and the continuation with the Short Horns until we get seven-eighths, or fifteen-sixteenths, of the blood, all appear to be well adapted to our climate, and are remarkable for the thickness of their coats.* Most of the Short Horn Cows, that I have seen, have all the marks of deep milkers. One of my half blood cows, by *Benton*, brought forth a calf in May last, and the calf for some weeks continued to suck but two teats, both on the same side of the udder, which was one half the milk. From the remaining two teats, I saw drawn regularly every day two buckets of milk, containing about three gallons each. This cow got nothing but the grass, and grazed with my other cows.

The next thing to be considered is, the fitness of these cattle for the shambles, of which I could not give an opinion, without seeing some of them slaughtered, as it would be impossible to say how they would cut; but as it regards their aptitude to fatten, and their early maturity, I give it as my opinion that they surpass every other breed of cattle that I have ever seen. My steers of three years old were perfectly fat last summer on grass, and some rising two years were quite fat. They are much more easily wintered, and will feed much better on straw and rough food, than any other breed of cattle. I am, &c. most sincerely yours, H. A. Carpenter.

How much pains have those evils cost us which never happened.

HORTICULTURE.

(From the Southern Agriculturist.)

Observations on the Rot of the Grape, and Grafting of Foreign Vines on Native Stocks.

Columbia, S. C. Sept. 4th, 1831.

Dear Sir,—I received your letter of the 31st ultimo, and being confined to the house by bad weather, I answer it in spite of my disinclination to writing, lest, by putting it off for a few days, I may neglect it too long. We have had such a continuation of rains and fogs, that the fruit generally has done very badly, and that which did not rot, was almost tasteless. My grapes, of which I had a very great abundance in the early part of the summer, rotted, not only in June, but also at the season of maturity. The great rains caused the skin to burst, and what with the help of the birds and numberless insects, such destruction I never have seen before, and hope never to see again. This, together with the influence of this enormous load of moisture on my bodily frame, so acts on my spirits as to lower them below par, and exposes me to attacks of the blue devils.

I would recommend to take up wild vines for grafting, or any other vines for transplanting, as early in the fall as they have lost their leaves, not even minding a few remaining green ones at the ends of the shoots. Shorten them only for the convenience of handling them, and reserve the cutting them off, till you are ready for grafting. I think the part of the top which is left is of service, probably, in helping the growth of young roots during the warm part of the winter. At any rate, it is best for grafting to have a fresh cut, the cleft being then in wood, is more full of sap, which is essential. The flow of the sap is a *sine qua non* in grafting, and without it, failure is, it seems to me, almost certain. If you have an ice-house, I would advise to have your scions for grafting cut off the vines as early as practicable to deposit them in a box or tub filled with *clean* sand, leaving (or not) the upper ends of the scions out, and put the box in the ice-house. If you have not such a convenience, deposit the box in the coldest cellar, or other place you can get, keeping the sand only moderately moist. I say clean sand, I only mean moderately so. The object of this is to prevent the scions from getting mouldy, and to keep them from vegetating till they are wanted for grafting, which ought to be as late, *at least*, as when the stocks on which you intend to graft have their buds swelled and ready to burst into leaves.

My mind is also wavering as to the rot of the grapes being in a great degree caused by their proximity to the earth; although I had at one time, as I thought, full and sufficient proofs that they resisted it almost in proportion to their distance from the ground; their being shaded by the foliage was, I considered (and still do) of considerable advantage, provided the circulation of the air is not excluded. My mode of training offered these advantages; for at the height of seven or eight feet; the bearing part of the vines running horizontally, the fruit, by its own weight, hangs down, and the leaves are as umbrellas over them. The sight of vines thus trained and in full bearing is most beautiful, and several of my friends here, as well as myself, had, this summer, a most splendid show of the kind, till the destruction above noticed made it distressing to look at. My vines that were thus trained, at first resisted the rot almost entirely for several years, whilst the others that had not yet been carried up continued to rot as usual. It is proper also to observe, that vines that are bearing for the first or second time, are, sometimes, almost exempt from the rot, though not always. I am certain, however, that this great curse is caused by the superabundant moisture, which, besides that it affects the grapes directly, gives rise to myriads of insects, which all help in the work of destruction. I am fully satisfied, that during the two weeks preceding the gathering of my grapes, I lost at least one hundred gallons in my garden alone by the rain, and fogs, and birds, and insects. Yet, notwithstanding all this, I made from my garden alone, about two hundred and sixty-six gallons, which is, I think, less than one-eighth of an acre, and this, notwithstanding the rot in the early part of the summer. What the quality of the wine will be, is another affair. I put all my ingenuity to task to make it good; but, if I succeed, I shall be entitled to great credit.

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*Long and close hair is one of the characteristic marks of the improved breed.

Several of my friends here who train their vines much higher than I do, one of them particularly, (Dr. Davis) have been perfectly free from rot. May it not be that, as they are more in the centre of the town than I am, there is some difference in the moisture of the earth by its being covered with many houses? This is possible, and appears to me at least a plausible argument. As to getting rid of the rot by grafting on the native stock, (I wish I may be mistaken) but I think you will not find this to be the result. The native vines, most of them, make good stock to graft on; but I do not think they are superior to our vigorous cultivated vines, and I have observed no difference, though I have grafted a great deal on both.

Your article on "caprification," reminds me that I have fig trees, which I raised from the seed of the large, imported figs. They suffer so much in our severe winters, that they have not yet done well. Some of them produce a small fig which does not get soft, but turns blue and drops. One, only, has produced two good figs some years ago; but the tree is in a bad situation, and is not at present thrifty. The figs were not large; green till two or three days before maturity, when they turned of a deep blue: they were very sweet. Several others have shewn fruit; but they have not come to any thing. It is possible they are only fit for "caprification." They would probably do better in the low country, and if you wish it, I shall, this fall, send you some suckers of them for your and your friends' experiments. I am yours, respectfully, N. HERBEMONT.

PLANTS OF MEXICO.

A letter from the U. S. Consul at Campeche to the Secretary of the Treasury, dated at New York, on the 8th instant, contains the following information relative to Mexican plants:—

The Treasury Circular of the 6th September, 1827, relative to the introduction of useful exotics into the United States, addressed to a portion of the American Consuls, directed the inquiries of the subscriber, (U. S. Consul for Campeche,) particularly to the Logwood tree which abounds in the Peninsula of Yucatan. His first communication to the Department, dated 1st January, 1829, contained a brief sketch of the information then obtained; and endeavoured to attract its attention towards the *fibrous* plants of that region, as subjects of much greater and more immediate utility. Belonging to the natural family Silliacea, the species of the Genus Agave, appeared to him of transcendant importance. In his communication of January 1st, 1830, he again expressed that opinion, which has been confirmed by his subsequent observations in Tabasco, and sustained by all the intelligence acquired since his arrival in this city on the 13th August last. The utility of these plants has been noticed in almost every work on Mexico, from the conquest to the present day. According to Clavigero, the name of Mexico "quiere decir 'en el lentro del Maguey o' Pita o' Alve Americano" (Agave Americano of Humboldt.) A reference to the same author shows the manifold utility of these plants to the ancient Mexicans. Some species furnish themselves protecting enclosures, and afford impassable sedges to other objects of cultivation. From the juice of others are extracted honey, sugar, vinegar, *pulque*, and ardent spirits. The pulque de Maguey, is the celebrated substitute for beer, cider and wine—preferred even by foreigners to every other liquor. From the trunk and thickest portion of the leaves, roasted in the earth, an agreeable food is obtained. The sap is applied externally to indolent ulcers and tumours, and a preparation is used internally, for urinary and other diseases. The stalks serve for the beams, and the leaves for the roofs of huts. The thorns answer for lancets, awls, needles, arrow heads, and other cutting and penetrating instroments. The fibrous substance of the leaves is, however, the most important gift of the Agave genus to Mexico. According to the species the fibre varies in quality from the coarsest hemp to the finest flax, and may be employed as a superior substitote for both. From it the Mexicans fabricated their thread and cordage, mats and bagging, shoes and clothing, webs, equivalent to cambric and canvas, the hammocks in which they are born, and the paper on which they painted their histories, and with which they adorned and adored their gods. The value of all the Agaves is enhanced by their indifference to soil, climate and season; by the simplicity of their cultivation; and by the facility of extracting and preparing their products. It is not, therefore, surprising that the ancient Mexicans used some part or preparation of these plants in their civil, military and religious ceremonies; at marriages and deaths; nor that they perpetuated an allusion to their properties in the name of their capital.

"Humboldt, Poinsett, Warden, and other foreigners, seem to consider the *fine fibres* called Pita, a product of the same plant that produces the Pulque. But the Maguey, from which the drink is obtained, is a totally different species, and fornish fibres of the coarsest texture. The Pita plant, like the Cacao, grows best in the shade; and its leaves are long, narrow and slender—the fibres of one of which accompany this communication. From this species, is probably fabricated in China that beautiful, glossy, fine and strong stuff, known here by the name of grass cloth. The Sísal Hemp of commerce is obtained from two varieties of another species of the Agave, which have long been cultivated in the vicinity of Merda. To this species the subscriber refers the Manilla Hemp although he has not hitherto been able to obtain any satisfactory account of the plant which produces it from our scientific or mercantile men, nor from books. Captain John White, of the Navy Yard at Charleston, states his impression, that it is obtained from the bark of a species of Palm tree, but its texture does not confirm the inference above expressed by the subscriber.

"Doctor Hernaodez describes nineteen species of Agave, as indigenous to Mexico, which vary more in the character of their interior substance than in the form and colour of their leaves; and among these, the precise variety which produces the Manilla Hemp will probably be found. Some species are prized for the beauty of their flowers, and some for the odour, and others for the flavour of their fruit: but the subscriber limits his recommendation to Government of those which are most valuable, on account of the quantity and quality of their fibres. Their cultivation in the United States, he still believes, will form an era in our agricultural and manufacturing prosperity, as distinguished as the invention of the cotton gins. He has shown, in his former communications, the almost insuperable obstacles to his introducing these plants, unaided and alone; but he had, nevertheless, the satisfaction to be apprised by Mr. Gordon, the Collector of New Orleans, that the young Sisal Hemp variety, sent by him to that city, had arrived in a thriving and vigorous condition. The subscriber believes, that an Act of the Legislative Council of Florida, incorporating himself and associates into a company, for the cultivation of tropical exotics, will be necessary to accomplish the views of Government, as manifested in the Treasury Circular of the 6th September, 1827. He believes that he has information in his possession, sufficient to attract capital to the enterprize. Once formed, the company might, in the same vessel, bring other useful exotics, although their pecuniary interests would confine them to the fibrous plants. Acclimated in the southern extremity of East Florida, they would gradoally extend up to the adjoining States on the Golf of Mexico and the Atlantic Ocean. The seed of the Logwood would probably be coveted for hedges, on account of its beauty, novelty and utility. The Arnatto would be propagated were it merely as an ornamental tree. The India Robber would be sought at least as a curiosity, and so would the Pimento.

"Ginger and Turmoric present the stimulus of immediate profit. Tree Cotton would find a genial climate. The tropical shrubs whose leaves are a substitute for Indigo, and the tree whose fruit serves for soap, would likewise there find a home. The "Ramon" would accompany them, to furnish with its leaves and tender branches, the food for domestic animals in their driest seasons, and with its froit a subsistence for the human family in times of scarcity of Corn. In short, every useful tropical plant would likely be introduced by an incorporated company for cultivating the fibrous species at the Southern extremity of East Florida."

(From the Genesee Farmer.)

GRAPES.

It must be gratifying to every lover of Horticulture, to witness the excitement which prevails in this country, at this time, in regard to the cultivation of Grapes, both for the table and for making wine. There is little danger now, but what the cultivation of the vine will be extensively commenced by many of our enterprising Agriculturists; but, there is some danger with this as with other excitements, that people will allow themselves to act before they have obtained sufficient information to enable them to act with prudence; and many things may be done which will be repented of. The first step which should be taken in regard to the introduction of the vine, is for the person who has determined to, or is wishing to commence the cultivation, to put himself in possession of all the facts relative to it, within his power. As we have very few people among us who have been practically acquainted with the several requisites necessary to render this business profitable, we must depend principally upon books for information and direction; and it may be considered a fortunate circumstance, that at this time we have several publications on the subject, which may be purchased at moderate prices; most of which will be found of great use to any one who intends to commence with garden or field culture. Although the vine seems to accommodate itself to many different soils and climates, yet, on these points, too much information cannot be collected, in order to prevent future disappointments. A thorough knowledge of the different varieties of grapes, is also highly important, in order to enable the planter to select those for a given soil and climate, which will give him the greatest compensation for his expenditures. Without a proper attention to this, much disappointment is to be expected.

With regard to the selection of varieties of grapes, Mr. Prince makes the following jodicious observation. "It is with the selection of varieties for a vineyard as with trees for an orchard; if a man who plants an orchard, uses from economy or other motives only natural stocks, or trees ingrafted with inferior and common kinds, he can succeed in forming an orchard, it is true; but he discovers after it has come to bearing, that it is absolutely valueless from the worthlessness of its produce; and he is either under the necessity of regrafting it anew, and waiting another long period for it to attain a second time to bearing, or has totally to eradicate the miserable stocks, and replant it with such kinds as are really valuable. Perhaps of all the false attempts at true economy, that of planting an orchard or vineyard with inferior fruits or unsuitable varieties, is the most weak in itself, and the most injurious to him who pursues it."

The force of these observations will appear more important to those who have had the misfortune to wait for the fruit of an orchard in a new country, which, when it has produced, proves only the imposition which has been practiced upon the owner through his ignorance upon the subject. Such cases are not uncommon in this vicinity.—Settled as this country was, with a class of people most of whom had grown upon the frontiers, it could not be expected they should be acquainted with all the choice varieties of fruits cultivated in the older parts of the United States; or, perhaps they had learned the names of some of them; but were not sufficiently acquainted with their characteristics, to detect false representations. Under these circumstances, it is not strange that so many people were imposed upon; some ignorantly, and others wilfully. There was a time when the idea seemed to prevail in this country, that, if a tree was ingrafted or innoculated, the fruit was consequently improved, whether the scions or buds were judiciously selected or not; hence, many orchards and nurseries have been budded and ingrafted, whose fruits have not been improved in the least, and people have paid their money, and raised their expectations in vain, where a little knowledge on the subject, might have prevented their disappointment.

The surest way to prevent the like impositions with regard to the cultivation of Grapes, is for people to make themselves acquainted with the different varieties, before they engage largely in the business, that they may not throw themselves on the mercy of the nurserymen. We do not make these observations, meaning any unkindness to those who are honourably engaged in that business; but to have people prepared to judge whether they are honest or not. We are aware that some of our eastern nurserymen have been censured; and no doubt, there has been many cases where such censure was just; but we have been very deficient in any acknowledged standard, by which we could try them. Mr. Prince has now commenced giving to the public such a standard, in his Pomological Manual; and, if in future, fruits are ordered according to that, and he sends them which do not agree with it, his own mouth will condemn him. He has been very particular in his description of Grapes; and so far as we are acquainted, we have not been able to detect any error in his descriptions or directions for their cultivation, and we think those who follow him may calculate upon success.

(From the New England Farmer.)

ON LIVE FENCES.

Mr. Fessenden,—In your paper of the 2d November I noticed a communication from Judge Buel of Albany nursery upon live fences. It always gives me much pleasure to obtain any information from one who so well unites the theory of horticulture with the practical results of his own experience. In many of his statements I fully agree with him. From long experience I am convinced of the superiority of live fences, both as regards efficacy and economy. I also highly approve the manner of setting out the young quicks, which he describes. I differ from him only as to the material or plant of which the hedge is made, and as to the advantage of splashing or as the English call it plashing.

For the last twenty years I have paid great attention to the subject and will give you the result of my experience. The first hedge I set out (about 500 feet in length) was of the English Hawthorn or Quickset. The result was decidedly unfavorable. The plant is not adapted to this climate—it appears better suited to the moist atmosphere of England; our long summer drought, injures it, it is peculiarly subject to the attacks of the borer, a species of mildew or blight almost invariably assails it early in August, by which it loses its leaves and by the middle of August or first of September assumes a wintry appearance.

My next experiment was with the three thorned acacia recommended by Judge Buel. The hedge was not more than fifty feet in length, but was placed in excellent soil and carefully attended. I had supposed that the long thorns with which the plant is armed would have made it peculiarly efficacious as a fence. The result was even more unfortunate than before. Prune and clip it as I would, I could never make it grow thick; it appears to have a decided tendency to shoot upwards rather than to spread; the thorns grow only upon or near the upper branches, and below there was nothing but the bare stems to serve as a fence. It would often too, lose as much during a hard winter, as it had grown during the whole summer. After a fair trial of near ten years I dug up the whole and replaced it with the American Buckthorn (Rhamnus catharticus;) with this I have been completely successful. It has it is true but few thorns, but it grows naturally so thick as to be a complete protection to the land inclosed by it. It shoots early in the spring and holds its verdure till very late in the fall. If properly managed, it is so close below that a rabbit could scarcely work its way through, while above the strong branches are so wattled and interlaced, that a man could not scale it, nor a bull force his way through it.

I have now in different places at least half a mile of this hedge which I shall be very happy to show to any of your correspondents who may wish to see it.

The mode of cultivation is very simple—it is set out either in the fall or spring in the manner recommended by Judge Buel; if in the fall, it is clipped the next spring within about nine inches of the ground. Next spring it is clipped again at the height of about two feet, the third spring at about three feet from the ground, with some side pruning The next summer your hedge is complete and you may keep it at the height and thickness desired at the expense of a little pruning.

I have also tried plashing. In 1818 or 19 my gardener, who was an Englishman, highly recommended it and at last persuaded me to let him attempt it upon a young and thrifty hedge made of Crab apple. He did it as it appeared to me very skilfully, but it was a very long and tedious operation and the result was the hedge was ruined. His mode of operating (which is I believe the common one) was to suffer the main stem to remain upright, while all the side ones were partially cut and bent down nearly horizontally, and so confined either by interlacing or by staking them down; they did not thrive however—they perished by degrees and I was at last forced to prune away all the horizontal branches, and lost at least four years' growth.

With the Buck-thorn I have never found plashing to be in any degree necessary or useful. If managed in the way I have described, in three years the hedge will be complete, requiring afterwards very little care and nearly as thick, and quite as impervious below as above. Very sincerely yours, &c.

Salem, Nov. 8, 1831. E. Hersy Derby.

(From the New England Farmer.)

PLANTING FORESTS.

Mr. Fessenden,—It was with great pleasure that I lately noticed a communication, in your useful paper, on the propriety of planting and improving forest and ornamental trees in this country; as grand forests, to the most simple observers, may be considered as the *bulwarks* of nations. Perhaps no country is more endowed by nature with ornamental shrubs and trees than America; which by a little attention, might be transplanted to different vacant spots and add much to the beauty of the scenery, as well as wealth of the nation. On taking a survey of New England we are presented with thousands of acres of land in a barren, uncultivated state, which by being planted with forest trees, would enliven the prospect and add much to the value of the soil. The many varieties of flowering shrubs indigenous to this country, may be planted in the outlets and vacancies by the road side and would at once gratify the traveller and enliven such localities, to the benefit of its neighboring community.

At the present time perhaps nothing more attracts the attention of European cultivators and landholders than planting and improving forests, and cultivating fruits. Many thousands of acres of land once barren are now covered with a valuable growth of oaks, ash, and various trees, suitable to the climate and the public welfare. We also find that American shrubs are the pride of European flower gardens; and it is greatly to be hoped they will, as they merit, attract the attention of the present enlightened community.

Observator.

TO KEEP GRAPES FRESH.

The following process is simple, and the success certain. Take a new cask, dry and strongly hooped, stand it in some spot where the temperature is always very nearly equal, cover the bottom of it with bran that has been well dried in the oven; and put into it the ripe, unblemished, perfect bunches, layer by layer, filling in with the bran, before another layer is laid down. When filled, the head must be fastened down air tight. Grapes thus put up will keep so well, that 7 months after the vintage they will be unspecked, without mould or foreign flavor, even the greyish-white down upon them, the same as if fresh that moment from the vine. Kiln-dried spent ashes are used by some instead of bran; or, as *Franklin* recommends, very dry millet seed. It was his custom to keep grapes fresh in kegs lined with Chinese sheet lead, and filled compactly with millet-seed. The Spaniards use saw-dust, dried in the sun and the casks are previously painted inside with pitch.

[*Vine Dresser's Manual.*

RURAL ECONOMY.

(From the New England Farmer.)

FALL FEEDING CATTLE.

Mr. Fessenden,—Although the pastures look uncommonly green for the season, it is apparent, that the alimentary properties of the grass are beginning to be seriously diminished. Already, the cattle of some of my neighbors, especially those which are fed on outlands, look pinched, and are obviously falling away. This, I have frequently said to myself, is bad management. If they cannot be kept in a thriving condition at the present season, they should certainly not be suffered to fall away; for it is apparent that they will need the stamina which they have acquired, during the winter approaching. In respect to young cattle, this may not be as important, although their growth must be proportionally retarded; but in respect to *milch cows* and *working oxen* it is absolutely essential. Unless in a good condition, cows cannot be expected to yield a large quantity of milk, nor that of an excellent quality; for I take it as settled, that both the quantity and quality of milk depend much upon the condition of a cow. And in respect to working oxen, their powers of draught and endurance are, to a certain extent, in proportion to their good condition.

But by what means, it may be asked, shall the good condition of cattle be preserved, in consistency with economy? Will it answer, asks the farmer, to begin thus early to fodder my stock? To this, I would reply, that every farmer should have provided for the exigencies of this *precise season of the year;* and should have been taught to have thus provided, by his past experience. He should have raised a good crop of pumpkins; or, as these are somewhat uncertain, he should have sown a field of turnips, carrots, &c., to be fed out early. But as many farmers, may not have thus provided, the question will probably occur, is it economical to begin to fodder at this time, when cattle appear to be falling off in condition? In my own view, the proper answer is, *by all means.* But, it may be said, that beginning thus early in the season, the fodder will not last. Be it so; keep your cattle in good condition as long as it does last, and if necessary then buy more. Or, if they must be pinched, let it be towards spring. If their solids have remained until that time undiminished, they will have something upon which to rely, should the fodder come short. Or which is, perhaps, a still better remedy for the anticipated evil, sell off your cattle, retaining only that number which you are *sure of keeping well.* Keep your cattle growing the whole year round—keep your milch cows, so that even late in the fall, their milk will not be seriously diminished from the quantity they gave in midsummer. Keep your oxen so that, if any accident befals them, you would not be afraid to recommend as tolerable beef. These directions are all practicable; and if practised upon would be found, I doubt not, economical strictly so.

But if you judge otherwise, you are at liberty to suppress what I have written, or disprove it, if you are able. Yours, G.

Berlin, Con. Nov. 1831.

The above remarks appear to us to be correct and judicious. Deane's N. E. Farmer coincides with our correspondent in some of his directions. In that work it is observed, "the meanest fodder should not be dealt out first of all. The straw and the worst hay should be reserved to give them in the coldest weather; for it is then that they have the keenest appetites. When a farmer thinks that he has too much stock for his fodder, as will sometimes be the case, it is not best to pinch them in their allowance so much in the fore part of winter as in the latter part. For the cattle are more liable to be pinched with cold, in December and January than afterwards. And no man knows how favorable the latter part of winter may be."—*Ed. N. E. Farmer.*

(From the Chillicothe O. Sciota Gazette.)

MAMMOTH OX.

This mammoth animal was exhibited here at the late canal celebration. He has since been slaughtered and sold in this market.—He was eight years old in June last, and measured as follows:—

	Ft.	In.
Height - - - -	5	10
Length from the crown of the head to the insertion of the tail - -	9	10
Girth behind the shoulders - -	10	2
Do. round the ribs - -	10	8½

Colour—a beautiful red and white pid—Nett weight of beef 2,272 pounds. Weighed in the presence of Col. Wellman and the editor of this paper.

He was raised and fed by George Renick, Esq. of this neighboorhood, and is a descendant, or cross of three several original importations from England:—two of which were made by Miller of Virginia—the other, by Goff of the City of Baltimore, the first more than fifty—the latter upwards of forty years ago.

Two of those importations were then known as the Durham, or short horn—the other as the Holderness or long horn breeds, and from which, the Messrs. Renicks of the Sciota Valley have raised as many as ten head of cattle, the lightest of which has weighed but a few pounds below 2,000 weight of *nett beef* when slaughtered, whilst a number of them greatly exceeded it. Later importations which have been crossed with this valuable stock, in the opinion of the best judges and breeders of cattle in this valley, havo added neither to the size, nor form of the original cross. This fact of itself overthrows at once, the illiberal assertion of Count Buffon, and other European naturalists—that all animals *degenerate*, when translated to this continent.

MISCELLANEOUS.

THE DEATH OF THE FLOWERS.

The melancholy days are come, the saddest of the year,
Of wailing winds, and naked woods, and meadows brown and sear,
Heap'd in the hollow of the grove, the wither'd leaves lie dead;
They rustle to the eddying gust, and to the rabbit's tread.
The robin and the wren are flown, and from the shrub the jay,
And from the wood-top calls the crow, thro' all the gloomy day.
Where are the flowers, the fair young flowers, that lately sprang and stood
In brighter light and softer airs, a beauteous sisterhood?
Alas! they all are in their graves, the gentle race of flowers
And lying in their lowly beds, with the fair and good of ours.
The rain is falling where they lie; but the cold November rain,
Calls not, from out the gloomy earth, the lovely ones again.
The wind-flower and the violet they perished long ago,
And the wild rose and the orchis died amid the summer glow;
But on the hill the golden rod, and the aster in the wood,
And the yellow sun-flower by the brook in autumn beauty stood.
Till fell the frost from the clear, cold heavens, as falls the plague on men,
And the brightness of their smile was gone from upland, glade and glen.
And now, when comes the calm, mild day, as still such day will come,
To call the squirrel and the bee from out their winter home.
When the sound of dropping nuts is heard, though all the trees are still,
And twinkle in the smoky light the waters of the rill.
The south wind searches for the flowers whose fragrance late he bore,
And sighs to find them in the wood and by the stream no more.
And then I think of one who in her youthful beauty died,
The fair, meek-blossom that grew up and faded by my side.
In the cold moist earth we laid her when the forest cast the leaf,
And we wept that one so lovely should have a life so brief;
Yet not unmeet it was, that one, like that young friend of ours,
So gentle and so beautiful, should perish with the flowers. [*Bryant.*

The following extracts are from a small pamphlet lately republished by Lilly & Wait, and Carter and Hendee, entitled Knowledge for the People, or, the plain

WHY AND BECAUSE.

Why does water thrown on a brisk and flaming fire apparently increase the combustion?

Because the water is converted into steam, which expanding and mixing with the flame, causes it to spread out into a much larger volume than it otherwise would have occupied.—*Arnott.*

Why are strong flames often seen at the chimney top of foundry furnaces?

Because the heat of the furnace is so great that the smoke burns on reaching the oxygen of the atmosphere.

Why will that part of the curtains of a room which has been exposed to the sun be often faded, while those parts which have not been so exposed retain their original colors?

Because the oxygen which existed in a solid form in the dye of the curtains, will be rendered aeriform by the rays of the sun, and will go off in the state of oxygen gas.

Why are urns for hot water, tea-pots, coffee-pots, &c., made with wooden or ivory handles?

Because, if metal were used, it would conduct the heat so readily that the hand could not bear to touch them; whereas wood and ivory are non-conductors of heat.

Why does a gate in an iron railing shut loosely and easily in a cold day, and stick in a warm one?

Because, in the latter, there is a greater expansion of the gate and railing than of the earth on which they are placed.

Why will a vessel which has been filled to the lip with warm liquid, not be full when the liquid has cooled?

Because of the expansion of the fluid by heat. Hence some cunning dealers in liquids make their purchases in very cold weather, and their sales in warm weather.

Why is a glass stopper, sticking fast in the neck of a bottle, often released by surrounding the neck with a cloth taken out of hot water, or by immersing the bottle up to the neck?

Because the binding ring is thus heated and expanded sooner than the stopper, and so becomes slack or loose upon it.

Why does straw or flannel prevent the freezing of water in pipes during winter?

Because it is a slow conducting screen or covering, and thus prevents heat passing out of the pipe. By the same means the heat is retained in steam pipes.

Why have ice-houses double walls, and why do wine coolers consist of double vessels?

Because air fills the intervals between the walls or vessels; or in some cases the space is filled with straw, sawdust or charcoal, all which are non-conductors of heat.

Why have some houses double windows?

Because the air inclosed between the two windows greatly prevents the escape of heat which is produced within the house in winter. Thus, air is an imperfect conductor of heat. Houses which have double windows are likewise more quiet than others from the air being also a bad conductor of sound.

Why is a decanter of cold water when brought into a warm room, speedily covered with dew?

Because the temperature of the decanter is lower than that of the air immediately around it. The dew may be wiped off again and again, but will be constantly reproduced till the temperatures are equal. Upon this principle, the most convenient sort of hygrometer, or instrument for measuring the quantity of vapor in the atmosphere, is constructed.

Why are porous vessels used for wine coolers?

Because, being dipped in water, they imbibe a quantity of it, which gradually evaporates; and, as a part of the heat necessary to convert the water into vapor will be taken from a bottle of wine placed in it, the wine is considerably cooled.

Why does the breath or perspiration of animals (of horses in particular, after strong exertion,) become strikingly visible in cold or damp weather?

Because the vapor (invisible while at a higher temperature) is thickly precipitated, by the air with which it is mixed being too cold to preserve it invisible.

Why is profuse perspiration so cooling to laboring men, and all evaporation productive of cold?

Because of the necessity of a large quantity of caloric being combined with fluids, to convert them into vapor or gas.

Why do persons take cold by sitting in wet clothes?

Because they suddenly lose a large portion of heat, which is carried off from the body by the evaporation of the water from the clothes.

Why in hot countries, do persons continually throw water on curtains which there form the sides of apartments?

Because the evaporation of the water absorbs a vast deal of heat, and makes the apartments cool and refreshing.

Why are assembly-rooms ventilated?

Because of the motion produced by the changed weight of air, when heated. The air which is within the room becomes warmer than the external air, and the latter then presses in at every opening or crevice to displace the former.

Why does the sulphuric acid in fire bottles so often fail in igniting the match?

Because the acid is continually attracting moisture from the air, owing to the imperfect manner of closing the bottles.

ROTATION OF CROPS.

While we boast of our farming, we must repeat again and again, the secret of our prosperity. It is a regular rotation of crops, making a little of many articles, rather than attempting to make much out of one; remembering the Scotch proverb, that "many a mickle makes a muckle"—together with heavy liming—LIMING—LIMING. Many farms here, (Chester Co. Pennsylvania) of an hundred acres have had from 3 to 6000 bushels of lime each, within the last ten years.

We wish the Price-current makers in all our cities, would state the price of lime per bushel—or if by the cask, mention the number of bushels the casks hold. When the Valley Rail Road shall be completed, Chester County will pour a million of bushels into the city for exportation, if there is a demand abroad; and when Anthracite Coal comes down to its minimum, ☞ we can afford lime so low, at Richmond, as to make it an object to put on their worn out lands, if they will farm it well afterwards.

[*Village Record.*

WOOL.

Extract of a letter from London, dated Sept. 22.—"German and Spanish Wools have declined in this market from 5 to 7½ per cent. and English Wools are from 10 to 15 per cent. lower than they were in July."

HORTICULTURAL BALL.

The anniversary of the New York Horticultural Society, was celebrated a few days since, by a ball got up with all splendor. The Charleston City Gazette, after noticing, in anticipation, the brilliancy of the illuminations, the elegance of the decorations, the quality and abundance of the refreshment, &c. asks:

But why a *Horticultural Ball?* Will the flowers dance to the inspiring music of the "Campbell's are coming?" or will the cabbages melt into tenderness and tears at the pathetic melody of "O 'tis love, 'tis love." How romantic to behold a bed of Ruta Baga, going through all the variety of the Spanish Dance, with a string of lively Lettuces run to seed; or to see a huge Sunflower taken suddenly and violently with a fit of the Pendleton Reel, and rushing down the astonished walk, in all the "Poetry of *perpetual* motion." We shall have Horticultural Whist Parties next; and who knows but a Horticultural Quilt-sitting may bring together all the old maids of the last half century?

SMELL OF PAINT REMOVED.

The offensive smell of oil cloths, varnishes, and paints, are said to be removed by chloric fumigation in a close room.—*Journal of Geology.*

THE QUEEN OF FRUITS.

A correspondent of the Providence American, at Lima, mentioning the fruits in the Lima market, says:

"At the head of the list is the *chirimoya.* It certainly deserves its title, 'The Queen of Fruits,' in all respects—for when opened on the table, there is no other so beautiful in appearance, or so delicate and luscious in flavor. The finest strawberries and cream, sweetened with powdered sugar, certainly comes the nearest to its taste of any thing I can think of. It is considered the finest fruit the earth produces, and is peculiar to Peru alone. The tree may be raised, and the fruits ripened in a hothouse by proper care. It will require only a little attention to produce the tree alone, which is handsome, and bears a beautiful fragrant flower. The soil should be the finest rich loam, and kept well moistened."

Legs of mutton are very good, cured in the same way as ham. Six pounds of salt, eight ounces of salt petre, and five pints of molasses, will make pickle enough for one hundred weight. Small legs should be kept in pickle twelve or fifteen days; if large, four or five weeks are not too much. They should be hung up a day or two to dry before they are smoked.

THE FARMER.

BALTIMORE, FRIDAY, NOV. 25, 1831.

CULTIVATION OF QUINOA, or *Peruvian Rice.*—The only direction that we have obtained from Peru for cultivating the quinoa, is, that it is to be sown and managed like wheat. From our brief experience we find this entirely erroneous, and by following it last summer we lost at least nineteen-twentieths of our small supply of seed. We sowed the seed in drills one foot apart, the seed in the drills about as close as wheat, on common soil. The result was, the plants stood so close that few of them bore seed; while a few scattering plants that grew singly, yielded abundantly; and the richer the ground the greater was the yield,—so much so was this the case, that one plant that grew in a spent hotbed (a pile of rotten stable manure with a few inches of soil on the top,) yielded about two quarts of seed. We conclude from this that the quinoa should be planted one foot apart each way; the ground should be highly manured with stable manure, and it should be hoed like corn to keep the weeds down in the forepart of the season. It should be planted as early as the season will admit. The frost in the fall does not affect it, much of ours was standing during the severe frosts of this month; the plant on the spent hotbed particularly, was exposed to the very severe snow storm of Monday night last, 21st inst., and the leaves frozen as hard as ice; but no injury was done to it. In cleaning out the seed, after the plants are ripe, we cut them up, tie them in convenient bundles and dry them perfectly. The seed is then easily rubbed out by the hand, and cleaned by winnowing. Some simple machine will soon be invented to clean it. The Peruvians rub the tops between coarse woollen cloths. If the ground be highly manured we believe that it will produce one hundred and fifty bushels to the acre—at least this is the proportion produced by some of ours. It has this great advantage over every other grain—you cannot make the ground too rich for it, and it will yield in proportion to the quantity of manure applied, or to the richness of the soil. It will grow on any soil, where the common lambs quarter (*chenopodium alba, its full brother,*) will grow. From a rough calculation we judge that half a pound of seed will be sufficient for an acre of ground. We must not forget to caution persons who make trial of this new grain, against *destroying it by mistake;* for it resembles so closely the common weed called lambs-quarter in some places, *pig weed* in New York and some other places, (*chenopodium alba,*) that before the seed begins to form they can scarcely be distinguished from each other.

Quinoa is used for all the purposes of common rice. We have tried it in all the different forms—in a baked pudding we think it far superior to rice. It does not resemble rice either in flavour or appearance; and can only have received the name of Peruvian rice from the fact of its being used in the same way. Its flavor resembles that of oatmeal more than any thing else. The grain is circular, flat, and about the size of a small radish seed. There are two kinds, the white and the red. The former when cooked is quite white, the latter retains its redish color. They are easily separated, as the whole plant of the red kind is covered with a redish powder, which is a most perfect *rouge* when applied to the skin. The coloring matter is not dissipated by light, but remains permanent. Perhaps a valuable dye may be extracted from it. The leaves are used as spinage, being little if any inferior to common spinage. Persons wishing to try the quinoa can obtain seed at the rate of four dollars a pound, by applying to the Editor of the American Farmer.

CURIOUS VEGETABLES.—Among the many singular productions that fall under our notice, we have seen none more curious than the three we are about to describe; for the seed of which we were indebted to our excellent friend, Mr. Legare, editor of the Southern Agriculturist. They were raised in our garden. The first is a *Mammoth Bean,* the size of which would have satisfied even "Jack the Giant Killer," and we are not sure that it is not the identical one on which he went up to the moon! The pods of this bean weigh half a pound, and are 11 to 12 inches long, 2 a 2¼ wide, 1 to 1¼ thick, and the form that of a Turkish cimiter. The bean is of a beautiful coral colour, the flowers pure white, very large and fragrant.

The second is a kind of Indian Corn, with the husk *on each grain.* This is very curious. While growing, many of the stalks produced the grain on the *tassels* and had no ears; others produced ears like common corn; but the main crop was like the original—every grain enveloped in a thick husk, but set in the ear like common corn, with a husk over the whole, but scarcely any cob. It was sent to Mr. Legare, from Orangeburg, S. C., where it was called *forage corn.*

The third is a singular kind of Squash, or more probably Cucumber—the vine and flower exhibiting evident marks of its being a connexion of the cucurbitaceæ family. Its root is perennial, vine a great runner, equal to the gourd, and fruit of the size and shape of a winter bell pear. It has but one seed, and that in the form of a large pumpkin seed, an inch long and half inch wide; this seed has no shell, and is the mere naked cotyledons of the future plant; and it is therefore necessary to plant the whole fruit. When vegetation commences the seed protrudes from the flower end of the fruit in the form of a cat's tongue. The fruit is cooked like early summer Squashes, and is, we think, greatly superior to them—for our ability to judge of them thus we are indebted to Mr. Legare, who politely sent us a good mess for our table. We succeeded in raising one vine, and have it now well protected for future bearing. Even this fall, however, it nearly matured its fruit. It is called *mango* in Charleston, but improperly. *Quere,* its botanical name?

DURHAM SHORT HORNS.—We beg leave to call the attention of our agricultural friends to the advertisement of Improved Durham Short Horn Cows and Heifers, which has for some weeks appeared in the Farmer. As the Editor has been commissioned to sell them, he has been out to examine them, and feels authorised to recommend them to persons who may wish to improve their stock. Some of them are with calf by the celebrated Bull *Bolivar*, imported by Mr. Powell. Their pedigrees are all good, and the animals well formed. There are a number of half, three-fourth, seven-eighth, and fifteen-sixteenth bloods also for sale. As the owner is about giving up the breeding of stock, these animals will be sold very low, and we consider it an opportunity to obtain improved stock that rarely occurs. A person obtaining one of these animals would be certain of a full blooded cow, and of a Bolivar calf in the spring that would be worth more than he will have to pay for the cow. In buying a cow ordinarily they have not this advantage. This is a good season to send them South, and application should be made to the editor without loss of time.

Prices Current in New York, Nov. 19.

Beeswax, yellow 20 a 22. *Cotton*, New Orleans .10 a .11½; Upland, .7 a .10; Alabama, .8 a 11. *Cotton Bagging*, Hemp, yd. 14½ a 17; Flax 13 a 14½; *Flax*, American, 7 a 8.——*Flaxseed*. 7 bush. clean .—— a —— *Flour*, N. York, bbl. 5.43 a 5.56; Canal, 5.87 a 6.12; Balt. Hwd. st. 5.75 a 5.87; Rh'd. city mills —— a 6.12; country, 5.50 a ——; Alexand'a, 5.50 a 5.62; Fredericksburg 5.37 a 5.50; Petersg. 5.50 a 5.62; Rye Flour, 4.62 a ——; Indian Meal. per bbl. 3.50 a 3.62; per hhd. 16.50 a 16.75; *Grain*, Wheat, North, 1.12 a 1.18; Vir. 1.14 a 1.18; Rye, North, 90 a —; Corn, Yel. Nor. 65 a 66; Barley, 1.30 a 1.34; Oats, Sth. and North, .42 a 47; Peas, white, dry, 7 bu. 5. Beans, 7 bu. 7.00 a 8.00; *Provisions*, Beef, mess 7.25 a 7.75; prime 5.00 a 5.12½; cargo —— a ——; Lard, 10 a .11; Pork, mess, bbl. 11.00 a 13.00; prime 10.00 a 10.50.

Prices Current in Charleston, Nov 14.

Cotton, Sea-Island, .17 a .22. Upland .6 a 9¼. Santee and Maine 15 a 18. *Rice*, prime, $3.00 a .——, inferior to good, ditto $2½. a .2¾. *Flour*, Philadelphia, Richmond and Baltimore $5¾ a 6¼. *Corn* .43 a .48. *Oats* 36 a .42; Peas, 38 a 42. *Hay*, prime Northern, 75 a ——— *Whiskey*, Philadelphia and Baltimore, hhds. .37 a .38; bbls. 38 a 39; New Orleans, old .40 a 42; *Beeswax*, .— a —. Tallow, Carolina, — a —. *Beef*, Boston, No. 1, 8½ a 9. Mess, 10 a ——; New York Prime —— *Pork*, Mess. .15½ a 16; Prime, .12¾ a .——. *Bacon*, .7 a .8½ cents; hams, 9 a 11, Lard, 9½ a 10. *Butter*, Goshen, 18 a 20; inferior 8 a 10.

TO THE PUBLIC.

Having assured my friends and patrons that should I ever find it necessary to lower the prices of my PLOUGHS, that I would give public notice thereof, that every gentleman may know the price he will be charged before he sends his orders—I therefore submit the following reduced prices to the public, which will be my charge from the date hereof.

Balt. Sept. 17, 1831. J. S. EASTMAN.

No. 6	a small Seed Plough, - -	$4 50
7	also a seed do. - . -	5 00
7	improved and a heavier Plough, -	5 50
7	Bar Share for stony land, - -	6 00
8	one or a small two horse Plough, -	5 50
8	large size improved small 2 horse do. -	6 00
8	Bar Share for rough soil, - -	6 50
9	small 2 horse Plough, called the poney do.	7 00
9	large size heavier Plough improved, -	7 50
9	Bar Share Plough for rough soil, -	8 50
	Sword Coulter for the same $1 50.	
10	a large 2 horse or small 3 horse plough,	9 00
10	Bar Share for rough soil, - -	11 00
	Sword Coulter for the same $1.75.	
12	a large three horse Plough, - -	14 00
	Sword Coulter for the same $2.00.	

For sale improved Barshare Plough, and the Scotch Plough improved by Geo. Glezy, together with his usual assortment of AGRICULTURAL IMPLEMENTS and Grass Seeds. He has also received by ship London Packet, a fresh assortment of GARDEN SEEDS, which are believed to be of superior quality. J. S. E.

BURLINGTON NURSERY, NEW JERSEY.

The subscriber has on hand a large and handsome assortment of Fruit Trees, Apple, Peach, Pear, Plum, Cherry, Apricot, and Nectarine; as also Grapevines; Forest Trees, Evergreens, Shrubbery, &c. &c. &c. For particulars see catalogue which may be had at the office of the American Farmer. CALEB R. SMITH.

NEW CLOVER SEED.

Just received and for sale by the subscriber, a few bushels of new cloverseed, of first quality.

BUFFALOE BERRY TREES.

The subscriber will receive in a few days a few of the new and beautiful fruit trees originally from the Rocky Mountains, mentioned in No. 5, vol. 13, Amr. Farmer, called *Buffaloe berry tree*, or Shepherdia. This is one of the most beautiful of all ornamental trees, bears delicious fruit, and is perfectly hardy—*price* $1 *each.*

BULBOUS FLOWER ROOTS.

The subscriber has for sale a small but elegant assortment of Tulips, early double and single Van Thol, and common kinds; Crown Imperials and Persian Fritillaries; Polyanthus narcissus, yellow and white fragrant; Yellow fragrant and White fragrant; Double and single fragrant Jonquils, &c.

A few of his splendid collection of new Pæonies and Hemerocalises yet on hand. GIDEON B. SMITH,
Office Am. Farmer.

FRUIT, ORNAMENTAL TREES, SHRUBS, AND PLANTS.

SINCLAIR & MOORE,

Inform their friends and the public generally, that their stock on hand this season is large, of thrifty well grown trees, except those marked on the catalogue. The fruit in this establishment are all carefully grafted or inoculated mostly from bearing trees, of the choicest collection of American and European fruits.

This nursery will afford purchasers in our own state the important advantage of planting their trees on the first, second, or third day after they are taken out of the ground, (provided the holes for the trees are previously dug, which they always ought to be,) having quick transportation to most every part of the state.

Printed catalogues for this season describing the names of plants, time of ripening, and price, as also directions for planting, to be had gratis at their Plough and Seed Store, Pratt street wharf, Baltimore, or at their Nursery, three and a half miles east of the city, between the Philadelphia and Bellair roads; the best and nearest way to go to it is by going out the latter road two miles, to a pointer of further direction. The senior partner resides on the premises, and constantly superintends the same, and would be pleased to see persons disposed to encourage, or view their extensive collection, where they can see and choose for themselves.

For the information of those who are not in possession of a catalogue, they will mention some of the principal articles ready for sale, to wit:—

Apple, Pear, Peach, Plum, Cherry, Apricot, Nectarine, Fig, Gooseberry, Currant, Raspberry, Strawberry, Quince of sorts—Grape Plants, fine size, many choice kinds, Thorn and Honey Locust for hedges.

ORNAMENTAL TREES.

English Elm of middling and extra large size.

Italian White Mulberry, of do. and large do.

Horse and Spanish Chestnut.

Linden and Sugar Maple Trees, Paper Mulberry, Abeal or Silver leaved Poplar, Yellow and Honey Locust, Chinese Alcanthus, or tree of Heaven, English Walnut, Mountain Ash, Buttonwood, Black Walnut, &c. &c. Balm of Gilead, or Silver Fir, White or Waymoth Pine, Dwarf Box, Cutting and Rooted Plants, Black Double Spruce, Arborvitæ.

ORNAMENTAL SHRUBS.

Roses, both hardy and Chinese or ever blooming, a good assortment, Double Althea a superior collection, Linock five kinds, Snowberry Tree, Grounsel Trees, Roseacacia, Corchories, Scarlet Trumpet Creeper, White Flowering Virginbower, White Flowering Jasmine, Yellow Flowering do., Scarlet Trumpet, Monthly Honeysuckle, White Striped Monthly do. of exquisite fragrance, Multiflora Rose, Graville's Superb Multiflora, cuttings of Grape, Apple, Peach, &c.

Oct. 14.

DURHAM SHORT HORN CATTLE.

For sale several Cows and Heifers of the above breed, full blooded, and also others of different grades of blood. Apply to the Editor of the American Farmer.

BALTIMORE PRICES CURRENT.

Baltimore Market.—There is no change in the market worth noting. The wagon price of Howard street flour remains at $5.37½, while the store price is scarcely any thing above that rate. This is owing to the smallness of the receipts. Considerable sales of city mills flour have been made at our quotations. Wheat remains steady. Fire wood has advanced a trifle, owing to the present very severe weather.

Tobacco.—Seconds, as in quality, 3.00 a 5.00; do. ground leaf, 5.00 a 9.00.—Crop, common, 3.00 a 5.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 10.00; yellow and red, 8.00 a 14.00; yellow, 14.00 a 16.00.—Fine yellow, 16.00 a 20.00.—Virginia, 4.00 a 5.00.—Rappahannock, 3.00 a 4.00——Kentucky, 3.50 a 8.00. The inspections of the week comprise 334 hhds. Md.; 18 hhds Ohio; and 9 hhds. Virginia—total 361 hhds.

Flour—best white wheat family, $6.75 *a* 7.25; super Howard-st. fresh $5.43¾ *a* ——; city mills, fresh 5.00 *a* 5.25; Susq.— *a* —; Corn Meal bbl. 3.50; Grain, Md. red wheat, 90 *a* 1.08; white do. 1.00 *a* 1.18, Susq. —— *a* —Corn, white, 50 *a* 52—yellow 50 *a* 52—New Corn 43 *a* 46—Rye, 75 *a* 78—Oats, 36 *a* 38. Beans, 75 *a* 80—Peas, 65 *a* 70—Clover-seed 5.25 *a* 5.75—Timothy, 2.50 *a* ——Orchard Grass 1.50 *a* 2.00—Tall Meadow Oat Grass 2.00 *a* 2.50—Herd's, 75 *a* 1.00—Lucerne — *a* 37½ lb.—Barley,—Flaxseed 1.3-8 *a* 1½-Cotton, Va. 8 *a* 9-Lou. 9 *a* 12-Alab. 9 *a*. 11-Tenn. .8½ *a*. 9½; N. Car. 8½ *a*. 9½-Upland 8 *a* 10—Whiskey, hhds. 1st p. 33½ *a* —; in bbls. 35 *a* 36——Wool, *Washed*, Prime or Saxony Fleece 49 *a* 57; American Full Blood, 47 *a* 55; three quarters do. 41 *a* 47; half do. 35 *a* 41; quarter and common do. 32 *a* 35. *Unwashed*, Prime or Saxony Fleece, 30 *a* 34; American Full Blood, 27 *a* 30; three quarters do. 25 *a* 27; half do. 22 *a* 25; quarter and common, 19 *a* 21——Hemp, Russia, ton, $245 *a* —; Country, dew-rotted, 5 *a* 7c. lb. water-rotted, 7 *a* 9c.—Feathers, 38 *a* 40; Plaster Paris, per ton, 4.50 *a* ——, ground, 1.37½ *a* — bbl. Iron, gray pig for foundries per ton 33.00 *a* ——; high pig for forges, per ton, 28.00 *a* 30.00; bar Sus. per ton, 72.50 a 80.00.—Prime Beef on the hoof, 4.25 *a* 5.00—Oak wood, 3.75 *a* 4.00—Hickory, 5.00 *a* 5.50—Pine 2.50 *a* 2.75.

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TERMS.

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2. Subscriptions are in all cases charged *by the year*, and never for a shorter term.
3. When once sent to a subscriber, the paper will not be discontinued without his special order; and then not till the end of the year of his subscription that shall be current at the time of receiving such order; except at the discretion of the publisher.
4. The risk of mail in the transportation of both the paper, and of bank notes sent in payment for it, is assumed by the publisher.
5. Advertisements connected with any of the subjects of the American Farmer, inserted *once*, (seldom more) at one dollar per square.
6. All letters concerning this paper must be directed to the publisher. They must be free of postage, except communications intended for publication, and letters containing money.

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AGRICULTURE.

(From the Library of Useful Knowledge.)

PLANTING.

(Continued from page 290.)

Management.—This head comprehends an ample degree of practical skill in the superintendent and workmen; the erection of proper sheds, the means of carriage for composts, soils, plants, &c., immediately when needed. A quantity of compost and different soils should always be in readiness when wanted for the seedling beds, layer stools, and cutting beds, and a proper assortment of nursery garden tools, which shall be specified hereafter. The preparation of the soil, the mode of sowing, and the different kinds of forest-tree seeds, have already been described. All kinds of forest trees, however, are not raised from seeds, either because they do not perfect a sufficient quantity for the general purposes of propagation, or are accidental varieties only of a species losing their characters of distinction when reproduced from seed. The following modes of propagation are found effectual when seeds cannot be obtained: first by *suckers*, second by *layers*, third by *cuttings*, and fourth by *grafting*.

1st. *Suckers* are shoots produced by the creeping roots of a tree, which, when separated from the parent root and transplanted, become perfect trees. They are generally sufficiently rooted in the first season of their production, and they should not be suffered to remain longer than two seasons attached to the root of the tree; for if continued longer, the support they derive from the parent root prevents them from making independent roots of their own in such abundance as they do when separated or taken up at an earlier period. The spring is the most proper season for taking them from the parent roots. When a sufficient number of rootlets appear on the sucker, no part of the root from whence the sucker sprang should be left attached to it; but where the proper rootlets are deficient in number, a small portion of the parent root may be left with advantage. The plants should be planted in rows in fresh soil, and treated in all respects afterwards as directed for seedling transplanted trees. The kinds of trees chiefly reared in this mode are:

The abele tree, *Populus alba.*
Common white poplar, *Populus canescens.*
Aspen, *Populus tremula.*
Chinese ailanthus, *Ailanthus glandulosa.*

The first three kinds may also be propagated by layers.

2nd. *Layers.*—The process of *layering* is well known: it consists in bending a young branch into the soil to a certain depth, and elevating the top part of it out of the soil in an upright direction; in time the buried part takes root, and the shoot becomes a perfect plant. The root which produces the young shoots for layering is called the stool. Stools are planted about six feet apart every way in a deep fresh soil. The stem at first is either bent down into the ground as a layer, or cut over a few inches from the root. The shoots which are produced from its sides form the layers. The rooting of the layers is much facilitated by obstructing in part the descending sap; this is essential to some kinds of layers, though not to all: the common laurel, privet, &c., strike root readily without any artificial stoppage of the descending sap. The most expeditious mode of effecting this, is to cut a notch, slanting upwards to the origin of the layer, about half a diameter in length, and securing the position of the layer in the ground by a wooden peg. Where the shoot is of a nature that roots with difficulty, it is useful to split the *tongue* of the notch half way up, and to insert a small wedge of potsherd or wood to keep the division open. Rings of wire are also sometimes used for the same purpose, and cutting the bark round the part to within a little of the complete circumference of the shoot. In all ordinary cases, however, the slit or notching mode is perfectly effective. The ground should be kept quite clean of weeds, and watered in dry weather. When sufficiently rooted, the layers should be carefully cut away from the shoots, with all the fibrous roots attached to them, and planted in rows in fresh, well-prepared soil. The stools should have all the stumps of the branches cut away, and left to produce a fresh series of shoots for next autumn's layering. The following trees are propagated by layers.

Maple, silver striped maple, *Acer campestre, fol. arg.*
    Sir G. Wager's, *A. dasycarpum.*
    bastard, *A. hybridum.*
    lobe leaved, *A. lobatum.*
    mountain, *A. montanum.*
    ash leaved, *A. negundo.*
    Italian, *A. opalus.*
    striped barked, *A. pennsylvanicum.*
    cut leaved, *A. platanoides laciniatum.*
    gold striped, *A. pseudoplatanus, fol. aur.*
    silver striped, *A. pseudoplat. fol. arg.*
    Tartarian, *A. Tartaricum.*
    Montpellier, *A. monspessulanum.*
Alder, cut leaved, *Alnus laciniata.*
    oak leaved, *Al. quercifolia.*
    prickley leaved, *Al. glutinosa spinulosa.*
    Turkey, *Al. oblongata.*
    oval leaved, *Al. oblong. elliptica.*
Birch, daurian, *Betula daurica.*
    Canada. *B. lenta.*
    black, *B. nigra.*
    paper, *B. papyracea.*
    poplar leaved, *B. populifolia.*
    red, *B. rubra.*
Hornbeam, cut leaved, *Carpinus bet. incisa.*
    Judas tree, American white flowered, *Cercis silig. fl. alba.*
    Date plum tree, *Diospyrus lotus.*
Spindle tree.
    gold blotched, *Euonymus Europ. fol. aur.*
    silver, *fol. arg.*
    white, *fruc. alb.*
    pale, *fruc. pal.**
Beech, broad leaved, *Fagus ferruginea.*
    purple leaved, *F. sylvatica purpurea.*
    copper leaved, *F. sylvatica cuprea* †
Ash, weeping *Fraxinus pendula.*‡
    curled leaved ash, *F. atra.*
    flowering ash, *F. ornus.*
    manna ash, *F. rotundifolia.*
    striped barked ash, *F. striata.*
Mulberry, white, *Morus alba.*
    common, *M. nigra.*
Tufelo tree, *Nyssa aquatica.*
    mountain, *N. montana.*
Bird cherry, *Prunus padus.*
    Cornish, *P. pad. rubra.*
Buckthorn, sea, *Rhamnus catharticus.*
Lime tree, white, *Tilia alba.*
    broad leaved, *T. Americana.*
    common, *T. Europæa.*
    red twigged, *T. Europ. corallina.*
    downy leaved, *T. pubescens.*
Elm, English, *U. campestris.*
    striped leaved, *U. fol. var.*
    Cornish, *U. sativa.*
    hornbeam, leaved *U. nemoralis.*
    Dutch, *U. suberosa.*

3rd. *Cuttings.*—Shoots of one year's growth are the most proper to be used in this mode of propagating several kinds of forest trees. The shoots should be selected from the most healthy and free-grown branches, and cut into lengths of from six to eighteen inches, according to the kind of tree. If evergreens the leaves should be cut off half way up from the root-end of the cutting. Deciduous trees should have shed their leaves before the cuttings are taken from them. The root-ends of the cuttings should be cut finely smooth, and inserted from about a half to three parts of their length into the soil. For every species of cutting, the soil should be light, and composed, at least, of half of fine siliceous sand. There are many species of exotic plants, whose cuttings will only strike root in pure siliceous sand. It need hardly be remarked, that in this mode of propagating, watering is more particularly required to be attended to than in any other. The utility of the sandy nature of the soil consists in its retaining no stagnant moisture, but just sufficient for the wants of the shoot during the process of rooting. As soon as the cuttings are well rooted, if in a light soil of the above description, they should be carefully taken up and transplanted to their proper soil; for although the shoots produce roots more quickly and in greater abundance in the siliceous sandy soil, yet it is unable to support the growth of the plant after the proper functions of the roots begin. Next to that of propagation by seeds, plants may be increased by cuttings more generally than by any other mode: the process, however, requires more time, skill, and attention, than is demanded for rearing trees from suckers, or by layers or grafting, and it is therefore chiefly practised for the increase of exotic ornamental plants; but the following forest trees are most advantageously raised from cuttings:

Plane, American, *Platanus occidentalis.*
    Spanish var., *P. acerifolia.*
    Oriental, *P. orientalis.*
    waved leaved, *P. cuneata.*
Poplar, Carolina, *Populus Carolina.*
    Lombardy, *P. dilatata.*
    Athenian, *P. Græca.*
    Canadian, *P. monolifera.*
    black, *P. nigra.*
    weeping, *P. pendula.*
    trembling, *P. tremula.*
Maiden-hair tree, *Salisburia adiantifolia.*
Willow tree, common, *Salix alba.*
    Peach leaved, *Amygdalina.*
    Duke of Bedford's, *Russelliana.*
    weeping, *Babylonica.*
    round leaved, *Capera.*
    gray, *Cineria.*
    crack, *Fragilis.*
    spear leaved, *Hastata.*
    common, *Helix.*
    fine stemmed or smooth leaved *pentandria.*
    triandrous, *triandra.*
    golden osier, *vitellina.**

4th. *Grafting*, in forest-tree propagation, is chiefly had recourse to for those varieties of trees which lose their distinctive characters when reproduced from seed, and which make finer trees when grafted on free growing stocks of their own species. The scions† take more freely when not more than of one year's growth, but those of much older growth will succeed. The most perfect grafting is where the scion and the part of the stock to which it is to be united are nearly of an equal size, for on the perfect contact of the inner bark of the scion and stock depend the perfect union of the two in the shortest space of time, and consequent equal healing of the wound. The month of March is the best season for forest tree grafting. The modes of grafting are numerous. French authors enumerate upwards of forty; for the purposes now under consideration, however, that termed *whip* or *tongue* grafting is generally followed. The scions should be selected from the more upright, free-growing branches; the middle portion of the shoot is the best; but where there is a scarcity of grafts, the top and bottom may be used, as these will succeed, though not likely to produce such fine trees. From two to five buds should be left for the production of a leading stem and branches. The stock should be cut in an oblique direction, and the scion in like manner at a corresponding angle; a slit should then be made in the stock about the middle of the wound, passing downwards, and a similar slit upwards in the scion; the upper division of the scion made by the slit, termed the *tongue* or *wedge*, is then inserted into the cleft of the stock, and the inner barks of the stock and scion brought into perfect contact, at least on one side. This should be effected with as little delay as possible. The parts are then to be bound with a riband of bass, and particular care should be taken that, in this part of the process, the junction of the two barks is not in the least displaced. To protect the grafted parts from drought and moisture, and from the action of the air, various means have been adopted, but the most direct and useful is well-worked clay, cleansed of gravel or small stones, and horse-droppings, well incorporated and mixed in the proportions of three parts of the former to one of the latter; a little finely-chopped straw is added with advantage. The clay should be placed on the grafted parts an inch thick on every side, and extend about half an inch above and below the union of the stock with the graft.* Another mode, called *saddle grafting*, is perhaps better adapted for forest trees than the foregoing, but it takes up more time in the performance. The stock should be cut so as to leave the top in the form of a wedge; the scion split at the lower end, and each side of the incision pared obliquely, so as to form the two divisions into tongue-like processes; these are then seated on the wedge and made to fit accurately to each side of it. The after operations of tying and claying are the same as in the former mode. The trees which come under the forester's care that require to be reared by grafting are the following:

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* These four trees are of low growth, and only for ornament.

† Propagated also by grafting.

‡ When grafted on the common or tall ash, the pendulous branches have a striking effect.

* This numerous and highly interesting tribe of forest plants, from the useful and varied properties which the different species evidently possess, demand more of the notice of the forest planter than they have yet received. The extensive and important trials instituted by John Duke of Bedford, now in progress, to investigate the comparative merit of all the different species of willows, will afford much useful information on the subject.

† Scions may be separated from the parent stock some time before grafting, without suffering injury from being kept, but the root-ends should be placed in earth to prevent the bark from shrivelling. The ascent of the sap in the stock being more advanced in the stock than in the graft, is sometimes advantageous.

Broad-leaved evergreen oak, *Quercus ilex latifolia.*
entire leaved, *Q. ilex integrifolia.*
Lucomb's *Q Exoniensis.*
Turner's, *Q. Exoniensis Turneri.*
broad-leaved Lucomb's, *Q. Exoniensis latifolius.*
Sweet crab tree, *Pyrus coronaria.*
Siberian crab, *P. prunifolia.*
willow leaved, *P. salicifolia.*
Chinese, *P. spectabilis.*
wild service, *P. terminalis.*
white beam, *P. aria.*
Swedish white beam, *P. aria dentata.*
small fruited crab, *P. baccata.*
Heart-leaved poplar, *Populus candicans.*
various leaved, *P. heterophylla.*
smooth leaved, *P. heter. lævigata.*
Upright medler, *Mespilus germanica.*
weeping medlar, *M. ger. diffusa.*
Entire leaved ash. *Fraxinus simplicifolia.*
striped barked, *F. striata.*
variegated, *F. variegata.*
white American, *F. Americanus.*
black, *F. Amer. pubescens.*
red *F. Amer. rubrus.*
Gold striped beech, *Fagus sylvatica fol. aur.*
silver striped, *F. sylv. fol. arg.*
copper coloured, *F. sylv. cuprea.*
purple leaved, *F. sylv. purpurea.*
Gold striped Spanish chestnut, *Castanea vesca, fol. aur.*
silver, *C. ves. fol. arg.*
various leaved, *C. ves. heterophylla.*
shining leaved, *C. ves. lucida.*
Gold striped horse chestnut, *Æsculus hippocastanum, fol. aur.*
silver, *Æ. hipp. fol. arg.*
yellow horsechestnut, *Æ. flava.*
scarlet, *Æ. paria.*

The stocks for these trees should be raised from seed of the common species, to which each variety is nearest allied, for the nearer the connection of the stock with the graft the more lasting is the union and more perfect the growth. In trees that have been grafted on unsuitable stocks, we frequently see the base of the stem abruptly contracted to a smaller circumference than the upper portion, and *vice versa*, just as the stock or the graft happens to possess the freest habit of growth. The stocks should be planted in rows two feet apart, and should be one foot distant, plant from plant. When arrived at two years of transplanted growth they will be in a fit state to graft. The grafts should be united to the stock as near to the root as convenient. This facilitates the vigorous growth of the tree, and allows of the earth being drawn up on each side to cover the *clayed* portion of the graft. The clay should be removed from the grafts, and the ties or bandages loosened when the progress of the new shoots of the graft indicates the perfect completion of the process. In the spring following that in which the trees were grafted many of them may be transplanted to their permanent sites, but it is better, as a general rule, to defer transplanting until the second autumn or spring. The *size* of the different kinds of trees most suitable for final transplanting is a point of some importance, particularly when the planting is on a large scale, and where the preservation of every fibre of the roots of the plants cannot be accomplished without an unnecessary expense of time and labour. A very young plant may be readily taken up and transplanted with its roots entire; but a plant of several feet in height requires considerable care in taking it up to preserve its roots from injury. The structure and the functions of the roots of trees, as connected with the produce and support of the plant were before described, and clearly point out the essential use of the minute rootlets and their accompanying spongeols or glands to the nourishment of the plant in every stage of its growth, and under every change of circumstance. Accordingly we find that, if a plant is taken up and transplanted with all its roots entire and uninjured, it experiences scarcely any perceptible check, unless its roots are exposed to the effects of the sun and wind for any considerable time, in which case it makes little, if any progress for a season. A moderate degree of pruning, however, of the overgrown and straggling roots of young trees, possessing the reproductive power in a full degree, and of the branches of their stems, is often expedient, and, when judiciously performed, is beneficial: it prevents the accident of doubling up the roots, or improperly disposing them in the soil, an evil of worse consequences to the plant than the shortening of an overgrown root, or lateral branch. To trees which possess the reproductive power in a very imperfect degree, pruning the roots or branches preparatory to transplanting is injurious. The facility with which young plants of any kind can be taken up without hurting the roots, and the slight pruning which they require at that stage of growth, point out as a general rule in deciding on the most proper size of the different species of trees for final transplanting, that the non-reproductive kinds should be of the smallest size or earliest stage of growth, and those in which the reproductive power is greatest of the largest size. If we divide the stem of a Scotch fir, or a larch, a corresponding stem is not reproduced; but if we cut down, in like manner, a willow, or even a chestnut, or an oak, a vigorous stem will follow. Where the habit of the roots is to divide into large branches, and run deep into the ground, as in the case of the oak, younger plants are required for transplanting than in those instances where the habit of the root is to produce numerous fibres. The nature of the soil also dictates, in some measure, the size of the plants. In rocky, elevated soils that cannot be ploughed or trenched, nor can allow of proper sized holes being made with the spade, plants of one or two years growth, or such as have small roots, can only be planted: when exposed to severe winds, plants above one foot in height are loosened in the soil, and never prosper. For the purposes of general or extensive works of forest planting, the best sizes of the plants of the different species of trees at the period of transplanting to their timber sites, may be thus enumerated:

1st. NON-REPRODUCTIVE OR RESINOUS TREES.

	Height.	
Pinus *abies*, common spruce fir, from	6 to	20 in.
alba, white spruce.		
rubra, red spruce.		
nigra, black spruce.		
sylvestris, Scotch fir.		
laricis, Corsican fir		24
uncinata, hooked fir		18
pumila, upright coned fir		12
Mughus, nodding coned fir.		
pungens, prickly coned fir.		
Banksiana, Hudson's Bay fir, in pots*		24
Pallasiana, Prof. Pallas's fir.		
pinaster, cluster fir	6	20
pinea, stone pine	6	18
maritima, sea-side pine	6	18
Halepensis. Aleppo pine	6	18
inops, Jersey pine	6	18
resinosa, pitch pine	6	18
variabilis, various leaved pine.		
Clanbrassiliana, dwarf pine.		
tæda, frankincense pine in pots.		
serotina, fox-tail pine.		
rigida, three-leaved pine	6	20
palustris, swamp pine, in pots.		
longifolia, long leaved pine.		
Cembra, Siberian pine	6	18
strobus, Weymouth	12	36
excelsa, Bhotan, in pots.		
cedrus, Cedar of Lebanon in pots.		
deodara, Indian cedar.		
pendula, black larch	6	24
microcorpa, red larch.		
larix, common larch.		
Canadensis, hemlock spruce	9	20
dumosa, bushy pine, in pots.		
taxifolia, yew leaved, in pots.		
picea, silver fir	9	20
spectabilis, purple coned, in pots.		
balsamea, balm of Gilead	9	20
Fraseri, double balsam, in pots.		
adunca, crooked.		
Romana, Roman.		
Siberica. Siberian pine	9	20
pichta, pigmy pine, in pots.		
orientalis, oriental pine.		
Lambertiana. Lambert's pine, in pots.		
ponderosa, heavy wooded.		
Araucaria *imbricata*, Chili pine.		
Taxodium *distichum*. deciduous cypress.		
Cupressus *sempervirens*, upright evergreen cypress.		
thyoides, white cedar.		
Juniperus *Virginiana*, red cedar.		

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* It is a highly useful practice to draw earth up round the clay so as to cover it entirely from the sun and air.

* By this is meant such sorts of forest-trees as from their rarity, or recent introduction of very small quantities of their seeds, have rendered the utmost care and caution necessary in the first attempt to cultivate them here; by and by, instead of being raised in pots, the seeds may be found to succeed equally well in the open ground.

Thuja *occidentalis*, American arbor-vitæ.
orientalis, Chinese.
plicata, Nee's.
Caroliniana, Lucas's arbor-vitæ.

2d. REPRODUCTIVE TREES.

	Height.	
Quercus, oak, different species of	from 6	to 30 in.
Fraxinus, ash, different species of	6	20
Castana, Spanish chestnut	12	30
Æsculus, horse chestnut	12	30
Fagus, beech	6	20
Betula, birch	9	30
Alnus, alder	6	24
Carpinus, hornbeam	6	24
Platanus, plane	12	30
Acer sycamore	6	30
Maple common	6	24
Norway	6	24
Grafted and layer reared species	12	36
Tilia, lime, common, and others	12	36
Ulmus, elm, wych	9	30
Grafted and layer reared species	18	36
Populus, poplar, different species of	18	36
Salix, willow tree, species of.		

Those species which are mentioned as raised in pots for transplanting, except the cedars and a few others, are as yet considered merely ornamental trees, the period of their introduction not having allowed sufficient time to prove their properties or comparative value as timber trees. It is highly desirable to plant them, with a view to ascertain that point, several of them being highly valuable in their native countries. The pinus Lambertiana has been found to have attained to the growth of 200 feet in height, and 57 feet in circumference.*

(To be continued.)

(From the New England Farmer.)

WORCESTER CATTLE SHOW REPORTS.

We should be glad to give all these reports at large, but have so many claims on our columns that some curtailments can scarcely be avoided. We hope to preserve the substance of those remaining, though unavoidably shorn of some of their proportions.

ON SHEEP.

The committee on sheep observed that there is evidently an increased degree of attention bestowed by our farmers upon the improvement of their flocks, both as it regards the size of the sheep, as well as the quality of their wool. There is no one branch of our domestic industry, which bids fair at the present time to reward the farmer more richly for his trouble than that of wool growing. It is one which our soil and climate, and the wants of the community point out as more peculiarly appropriate for New England than almost any other. In the offering of premiums for rams, the society have had regard to their size as well as the fineness of their fleeces. Deeming it to be an important consideration that the sires of our flocks should be possessed of all those qualities which it is desirable to have combined in their offspring, and which the experienced wool grower finds to be most conducive to the obtaining of quantity as well as quality of produce.

* * * * * * * *

Fine wool commands the highest price in the market at all times, and a flock of sheep producing the first rate of wool requires no more care and attention and consumes no more of the produce of the soil than one yielding fleeces of an inferior grade. If profit then be an inducement to stimulate the enterprise and exertions of our farmers, the growing of fine wool is a business, to which they will find it for their interests to devote more of their time and attention than they have for some years past. Our steep and rocky hills, which are too rough for profitable cultivation seem to be peculiarly appropriate and fit for rearing sheep, and the climate of this section of the United States is favorable for growing fine wool.

The committee hesitated some time between the ram offered by Rejoice Newton, Esq. of Worcester, and one offered by Mr. William Williams of Shrewsbury. They however awarded the premium for the best Merino ram of seven dollars to William Williams of Shrewsbury.

The premium "for the best Merino ewes not less than four in number" was awarded to the lot exhibit by Mr. Edwin B. Taintor, of Brookfield. For the next best lot of Merino ewes the premium was awarded to Rejoice Newton, Esq. of Worcester. For the best lot mixed Merino sheep there was but one claimant. Mr. Benjamin N. Child of Worcester, exhibited those which were considered by the committee as well deserving the premium of $5 for their fine quality. For the best native ram the premium of $5 to Ephraim Wilson of Barre. For the best native ewes, four in number, to Mr. John Reed of West Roylston, the premium of $4. A fine large and handsomely formed native ram was offered for exhibition only by Mr. Otis Longley of Boylston. A lot of six native ewes of fine shape and size were exhibited by Mr. Rufus Barton, of Milbury. A fine ram of the native breed with a slight cross of the Merino blood was exhibited by Mr. John Reed of West Boylston;—this ram was remarkable for weight of fleece, three shearings having yielded 20 lbs. and 11 ounces of wool. The fact of his having a cross of the Merino blood excluded him from coming in competition with the native rams for premiums. A Merino ram of large size was exhibited by Mr. Charles E. Miles of Shrewsbury, but for fineness of fleece not quite equal to those of Messrs. Newton and Williams. A large handsomely formed native ram was exhibited by Mr. Holloway Baily of Northborough. Four very handsome Merino ewes by Mr. Samuel Sawyer of Sterling. Two fine rams by Mr. C. Wheelock, Southbridge. One of these, a very fine woolled animal, being a cross of the Merino and Saxony in equal parts. The other ram was of a large size and of a mixed descent from the common Merino and Saxony breeds.

The reports conclude as follows: "the committee have much pleasure in remarking the great interest that is manifested by the several gentlemen offering sheep for premiums for the improvement of the quality of their animals. There are probably at the present time but few flocks in Europe whose fleeces excel in points of fineness those of our own country's growth, and the time is not far distant they hope when all the wool wanted for our manufacturers will be grown by our own farmers."

Wm. N. Green, *Chairman.*

ON WORKING OXEN.

Twenty-five pairs were entered for premiums; twenty strove for the mastery, and five retired from the contest. Although the committee have for many years witnessed the trial of strength they have never seen the contest so equally balanced. All the cattle were of a superior cast and displayed unprecedented power and fine discipline. The whip was little used and little needed. They awarded to Stephen Marsh, jun. of Sutton, the 1st premium of $12. To Thomas Harbuck of Sutton the 2d premium of $10. To James Taylor Sutton the 3d premium of $8, and to Arnold L. Allen of Shrewsbury, the fourth premium of $5 The four years old cattle of Mr. John Spurr of Charlton, entitled their owner to a gratuity of $4. The six years old cattle of Mr. Silas Allen, jun. of Shrewsbury, and the five years old cattle of Mr. Tyler Carpenter, of Sutton were beautiful, and on any other occasion might have stood without a rival. This report was signed,

Alexander Dustin, *Chairman.*

The report on swine, like that on manufactures is replete with humor, which some critics may perhaps think misplaced and misapplied. But we like a little tomato ketchup to season more solid viands; and do not perceive why judges of swine need to assume, as badges of official dignity, faces as long as the phizzes of the animals, which come within their jurisdiction.

ON SWINE.

The judges of swine, report, that the duties assigned to them on this occasion, have been attended to with peculiar pleasure. Besides the general satisfaction, which they must of course, feel, in common with the other members of the society, at the success which continues to attend the operations of the association, they cannot but take to themselves at the same time, a degree of honest pride, that they in particular, should have been selected for the commanding situation which they this day occupy. Far be it from them to magnify the importance of their office, and still farther be it from them to draw invidious comparisons between their duties and those of their less fortunate coworkers; but, with all becoming humility, and with all suitable expressions of diffidence in their abilities to discharge the high duties imposed upon them, they must be permitted to remark, that, in their opinion, to be a judge of swine, is an honor which might well satisfy the cravings of the most aspiring ambition. Nor is this all. Their duties, on this occasion, have brought them into close connexion with a most lovely portion of the animal creation. What animal for instance, can compare with the hog in personal neatness? Where else can be found such gravity and dignity of demeanor? Who has not looked, with admiration, on the wonderful elongation of countenance, which the most pleasurable sensations can never distort into a smile? Who ever heard of a hog-laugh? The little cross accidents, which constitute so large a part of the sum of our miseries, can never disturb the calm serenity of his countenance. And who can fail to admire the elegance of his whole figure, and the grace of all his movements? But above all, who has not listened, with the most excruciating interest, to the harmony of his voice? Who has not felt, when listening to his shrillest notes, as if he were "all ear."

> "And took in strains, that might create a soul
> Under the ribs of death?"

> "Scylla wept,
> And chid her barking waves into attention,
> And fell Charybdis murmur'd soft applause."

But, notwithstanding all the amiable qualities of this most interesting beast, it cannot be disguised, that he has been subjected to the most unmerited abuse. He has been slandered most foully. One class of the human family has been allowed to usurp the sovereignty of his name. The miserable drunkard, instead of receiving an appropriate appellation, has, by common consent, been dignified with the name of hog; and the scene of his disgusting orgies has, most unaptly, been called a stye.

This is wrong and oppressive, not to say unconstitutional, as all must allow; but your Committee have found themselves unable, (considering the great diversity of opinion, which prevails, at the present day, on almost every subject of general interest,) to devise any plan, which seems likely to furnish a complete remedy for the evil. They suggested to their *proteges* the expediency of nullification, but the idea did not strike them at all favourably. An appeal to the Supreme Court was recommended, but claiming to be themselves sovereign and independent, they thought it unsafe to refer their grievances to that tribunal, more especially as they had been told, that it was a mere tool of the Government. The establishment of a newspaper, in which their claims should be advocated, was hinted at; but, in reply to this suggestion, they said something about hollowhearted friendship, which your committee did not exactly understand. On the whole, no plan could be hit upon, which seemed more likely to effect their object, than a convention of swine, to be assembled at some suitable time and place, where the whole subject-matter could be finally discussed and considered. The first business of the meeting, would, of course, be to nominate suitable candidates for office; but the main object would be to pass resolves embracing the following sentiment: If any man shall, knowingly and wittingly, speak evil of a hog, he ought never afterwards to have a rasher of bacon for his breakfast.

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* Transactions of the Linnean Society of London, vol. xv. part ii. p. 498.

The exhibition of Swine was large and very satisfactory. The whole number was 54.

The attention of the judges was first directed to the boars, of which there were 8 offered for premium; 2 by Abel Warren, of Northboro'; 2 by Lewis Bigelow, 2 by John W. Lincoln, 1 by Geo. A. Trumbull, and 1 by Wm. Eaton, all of Worcester. A very pretty little animal, too young for premium, was sent in, for exhibition only, by Ephraim Child, for which he deserves thanks. All were good, but not equally so. One of Mr. Lewis Bigelow's boars, 6½ months old, was considered the best, and the judges, therefore, award to him the 1st premium of $5. They had more difficulty in deciding, who was entitled to the next premium, but finally awarded to Geo. A. Trumbull, for his boar, 6 months and 7 days old, the 2d premium of $3. The judges respectfully recommend an allowance for his travel, to Mr. Warren, of Northboro', as his animals certainly are deserving of much praise.

The Judges found in the pens, 5 breeding sows, owned, one each, by Oliver Fiske, Newell Rice, Wm. Eaton, Moses and Samuel Perry, and John W. Lincoln. They were all, without exception, beautiful females; but the one owned by Mr. Rice, was thought to be decidedly the handsomest, and the Judges, therefore, award to him the 1st premium of $5. The sow, owned by Mr. Lincoln, was in high flesh and doubts were expressed whether she would be on that account, so good a breeder; but she had too many good points to be passed over, and the Judges, therefore, award to Mr. Lincoln the 2d premium of $3. Dr. Fisk's sow, also, is a very fine one, and the Judges had evidence, that she is a capital breeder, having had at the age of 28 months, 4 litters of pigs, in all 44, but was not thought to be quite equal, on the whole, to those for which the premiums have been awarded.

The weaned pigs, being in all 37, were, with few exceptions, particularly beautiful. 8 were owned by Messrs. Salisbury and Williams, 2 by Rufus Barrows, 2 by Ephraim Child, 3 by Newell Rice, 8 by Samuel Harrington, Jr., 2 by Wm. Eaton, 10 by Samuel Harrington, Jr. and Elbridge Hewitt, and 2 by John W. Lincoln, all of Worcester. The Judges walked from pen to pen, and examined again and again, and were finally obliged to decide, not without some misgivings as to the correctness of their decisions. They thought, that two of Newell Rice's pigs, on the whole, were the best, and they award to him the 1st premium of $3. They selected 2 from the lot of 8 belonging to Messrs. Salisbury and Williams, which, they finally agreed, were second best, and they accordingly award to these gentlemen the 2d premium of $2.

The Judges may have erred in their opinion, but they can only say, they have endeavored to judge rightly.

Very few of the owners of the Swine were seen by the Judges, so that they could not ask questions as to the feed, &c., which they would have done, could they have had the opportunity. All of which is respectfully submitted.

By order. WALDO FLINT, *Chairman.*

CHLORIDE OF LIME TO DESTROY MILDEW.

Judge Buel, in the New England Farmer recommends the use of chloride of lime as a preventive of mildew. He tried a weak solution on a blighted pear tree, and restored it to a healthful condition.

[*Ed. New York Farmer.*

(From the New England Farmer.)

CROPS ON THE CONTINENT OF EUROPE.

As the states of the crops in England and on the Continent are highly interesting to the growers and dealers in grain in this country, we have selected the following article from the London New Price Current of September, as containing more information in a condensed form than any we have seen.

Having devoted latterly so much space to the Home Agricultural Reports, we now offer our friends, this week, a succinct account of the state and the result of the harvest abroad—commencing then with France, we find that the Grain is now almost secured in most parts, with the exception of the Northern departments, the anticipations as to an abundant produce have not been realized and are below an average growth, and in others from wet, the wheat has been materially deteriorated in quality, in which, in some instances, Barley and Indian Corn have participated. Towards the South not only the quality has suffered but the quantity has fallen full one fourth short of an average; best descriptions of Corn therefore are being held at most of the principal markets at advanced terms, prime samples of new being scarce, and of old, the stocks are nearly exhausted. As to Italy and the Mediterranean, we hear from Naples, Leghorn, Ancona, Genoa, Rome and Trieste, that the produce is calculated to be nearly one third below the usual quantity, that there are various grades of quality, and but a small portion of fine quotations are ranging high, and which are likely to be maintained. In Sicily, owing to the entire failure in the crops, the ports have been thrown open for foreign importation. From the Black Sea and the Crimea the appearances of the Crops are stated to lead to very satisfactory conclusions. At Tanganroc best qualities of old Wheat are very scarce, and at Odessa the supplies are not expected to attain the amount they have in ordinary years, owing to the political state of the most fertile provinces in the interior. In Spain the crops are tolerably good, but not so abundant as the appearances in spring indicated. In Portugal they have experienced much inclement weather and the crops are proportionately damaged; the port of Lisbon is in consequence opened for the import of 27,000 quars. of Wheat, and permission it is expected will be further extended next October or November.

As to Germany, the crops in the neighbourhood of Magdeburg, the Saale, Marks, Anhalt and Brunswick are highly spoken of—the quality will exceed that of ordinary years in weight, averaging 60 to 61 lbs. and will reach 62 to 63 lbs. and even 64 lbs. imperial—the quantity will also be an average, though there are partial complaints of rust and mildew, but not sufficient to effect the general produce. In Holstein and Mecklenburg the same remarks will be borne out, not excepting even the weight. Rye, on the contrary, has suffered much from blight, and is complained of as being thin and light.

In Pomerania and Silesia, the wheat crops are equally good and heavy, as those in Germany. From Dantzic we are informed that rye, from mildew, has suffered a diminution of 6 to 8 lbs. per bushel, and that wheat has also been injured by blight, which it is feared will affect the produce, and lessen the chance of fine quality being procured. In Poland there is little doubt but a small breadth of ground has been sown this season as compared with former years; fortunately the growth seems nearly, by a superabundance, to have made up for the deficient extent. The supplies, however, from thence will depend entirely upon the political results. From Russia we receive no complaints as to the produce of the harvest. In Norway and Sweden the crops are likely to prove satisfactory to the anxious farmers, and to repay them the failure of the preceding growth. Barley and oats, with a few exceptions, in all the Northern countries, promise well as to quality, though in some districts the yield of barley will not fulfil the expectations. In Canada the crops are described as most promising, and that the season has been highly favourable to the blossoming of the wheat, so that a good quality may be looked for, and cultivation has this year been considerably extended, and it is said a fifth more seed of wheat has been sown, which would enable an extra export next season of 3,000,000 bushels. In France, Italy, Germany, Prussia and Russia, the stocks of old wheat consist almost entirely of inferior qualities, and best descriptions can only be expected from the new produce.

We have received from Prince Edward's Island, N. S. the first cargo of grain, consisting of wheat, barley, and oats. The wheat is good red Canadian quality, and the oats plump, and apparently Irish seed of improved growth.

(From the New England Farmer.)

MANURE YOUR GRASS GROUNDS.

An intelligent and scientific cultivator, who wrote a number of valuable articles, which are incorporated into Messrs. Wells & Lilly's edition of "*Deane's Georgical Dictionary,*" has given the following remarks on this subject, under the head "*Top Dressing,*" in that work.

"There is scarcely any question, on which farmers are more divided than as to the policy of applying manure as a top dressing to grass lands, in the spring or fall. The reasoning seems to be in favor of spring dressing, and it is supported by many excellent names. But it ought to be known, that intelligent farmers, near the metropolis, most generally dress their lands in autumn. Besides the reason stated above, that grass lands are less injured by carting over them in the fall; it may be added, that it is a season of greater leisure; and although it is confidently asserted, that the manure is wasted by rains and snows, yet much ought to be allowed on the other side, for the protection afforded by the top dressing to the tender roots of the plants during winter, and ought we not to add something for the low temperature of the atmosphere in winter, which prevents evaporation? whatever principles of fertility exist in manure, are in winter carried down into the soil. We are fully convinced that a scorching sun, and drying air, are more pernicious to manures, spread thinly over the surface than any drenching rains can be, unless on declivities where top dressings are unquestionably of less value than on level grounds. The fact that farmers who grow rich by supplying the great towns with hay generally adopt the practice of fall dressing their grass lands deserves weight."

SALE OF BLOOD STOCK.

The annual sale of Stock, Horses, &c. at the residence of C. H. Hall, Esquire, was attended yesterday by between 200 and 300 persons. We were there for a short time only. The particulars of the sale were as under. Mr. Doran, of the Bank Coffee House, prepared a sumptuous collation both at the house and in the fields.

At the farm of Henry Hall, Esq. at Harlæm—by R. R. Minturn & Co.—Durham, a full blooded short horned bull, $400—Wye Comet, a noted full blooded bull, 200—Norfolk, a full blooded Devonshire, 100; Henry, do. two years old, 65—Young Patroon, do. one year old, 80—White bull do. do. 100—20 various bull calves, from one year old, 25 a 60—1 Heifer, one year old, 105—1 do. do. 70—20 do. do. 32½ a 65—15 Cows, half blood, 20 a 45—30 Blood Calves, 15 a 45.

HORSES—Constellation, $775—Talma, 1,125—Alert, black filley, 525—Bay Colt, 450—Sorrel Filley, 300—Ranger, 3 years old colt, 575—Alarm, an imported mare, 575—Sampson, a 5 years old sorrel, 300—Express, 3 year old sorrel, 400—20 blood Horses and Filleys, from 100 a 375—Bakewell sheep, bucks and ewes, from 4 a 12.—*New York Standard.*

HORTICULTURE.

(From the New York Farmer.)

ADDRESS

Delivered at the Anniversary of the Albany Horticultural Society, on the 10th of September, 1831.

By Rev. Dr. Lacey.

Mr. President, and Gentlemen of the Society:

Amid the bright and salutary maxims of the Divine Government, the ordinance that no human achievement of importance shall be accomplished without *well directed* and *persevering industry*, stands conspicuous. In the administration of civil government, military operations, scientific and literary pursuits, moral and religious projects, and every benignant and useful enterprise, there are impediments to be removed, and difficulties to overcome, that render *labour* indispensable. From the moment God said to Adam, "in the sweat of thy face shalt thou eat bread, till thou return unto the dust," to the present time—without *labour,* and without *united* labour, no human performance has approached perfection. In the divine economy, the promotion of *industry* and of *social* intercourse, are evidently primary objects. We perceive in every instance of improvement, a combination of *individual* effort and *united* labour; corroborating the proverbs, "the *diligent* hand maketh rich;" and "in the *multitude* of counsellors there is safety."

The correctness of this statement is illustrated in the origin and progress of horticultural societies. The improvement and adaptation of soils—guarding against unpropitious climates—collecting and preparing materials—conducting experiments, and performing the various manipulations incidental to the growth of fruits and vegetables—demand, not only the labour of solitary individuals, but the experience, science, and wealth of whole communities. Had this branch of human industry been left to private enterprise, the world would now be destitute of some of its brightest ornaments. Gardens blooming with all the beauties of the vegetable kingdom, and imparting to the passing breeze the fragrance of every climate, would not exist. Many of the most beautifully cultivated portions of the earth would be a barren heath or a wild and tangled forest. The institution of horticultural societies, the appointment of corresponding functionaries, the union of individual resources, and the influence of emulation, have produced results in this department of human industry which solitary efforts can never equal.

Nor have improvements of this description failed to recommend themselves to the patronage of the most noble and the most wealthy, in all ages. The Paradises of Semiramis, the hanging terraces of Babylon, the Imperial Parks of Persia, the Hesperides of Africa, the Academus of Athens, the gardens of Rome, and the Kews and Kensingtons of England, bear testimony to the correctness of this statement. Henry the VIII., Queen Elizabeth, James the VI., Charles the I., William and Mary, and many others of royal dignity, as well as numerous individuals, less indeed conspicuous in rank, but equally illustrious in talent and enterprise, have been zealous and efficient patrons of Horticulture. In 1805, a Horticultural Society was instituted in London, under the patronage of Earls Dartsmouth and Powis, Sir Joseph Banks and other distinguished characters co operating. In 1809, the Caledonian Horticultural Society was established at Edinburgh, and has since been fostered by several of the Scotch nobility and gentry, particularly the Duke of Burcleugh, the Earl of Wemyss and March, the Earl of Leven, Sir James Hall, and others equally distinguished. Nor have the sister institutions, established in this country, been suffered to languish for the want of patronage. Judging from my own feelings, and the indication of others, they are universally regarded with sentiments of kindness. The good they have effected has gained for them the public confidence, and excited hopes of increasing benefits. Nor will these hopes be disappointed. Horticultural societies involve principles inherently efficient. They possess to a great extent, the power of ameliorating the qualities, and of increasing the quantity of fruits and vegetables, of adding almost infinitely to their varieties, of cultivating many of the most useful and potent medicines, and of supplying, with ornamental trees, our parks and promenades.

In a great degree the qualities of culinary vegetables are dependent upon circumstances. The texture of the soil in which they grow—their exposure to the action of the sun and of the atmosphere—the time they are planted—the mode in which they are cultivated, and the process of their preparation for use, exert a direct and controlling influence in the formation of their qualities. This influence, however, is detected, scientifically, only by observation and repeated experiments; and not unfrequently requires the lapse of many years and considerable expense; and when detected, is promptly communicated only by public bodies; individuals being inclined, generally, in subservience to their own interest, to withhold from the public eye the results of their most useful experiments. But societies are interested as much in communicating knowledge as they are in acquiring it. Hence results the great benefits of horticultural institutions. Possessing as they do, in the nature of their organization, the faculty of improving the qualities of fruits and vegetables, it is their *interest* to *exert* it—and they *do* exert it. We have witnessed, in the lapse of a few years, a decided improvement in this respect; and this improvement will progress in exact proportion to the increase of the industry, intelligence and resources of horticultural institutions.

These societies contribute not only to the improvement of the *qualities* of fruits and vegetables, but also to their *quantity.* By ascertaining the soils best adapted to given purposes, indicating the most successful modes of cultivation, and the best methods of gathering and keeping crops, their increase is abundantly promoted.

Nor is this all. The love of novelty, emulation, patriotism and personal interest, all combine to induce members of these societies to distinguish themselves, by introducing new discoveries and improvements.—Hence *varieties* of fruits and vegetables are yearly added to our gardens. Since the organization of the society I am now addressing, we have had accessions of this description, from every quarter of the world.—By the gifts of sister institutions, the labours of the scientific and enterprising proprietors of the "Albany Nursery,"* and the private and official efforts of other distinguished members of the society,† every portion of the globe has been rendered tributary to our comfort. Improvements in this respect, during the last fifteen years, in this ancient city, have exceeded almost the bounds of credibility. In the article of potatoes, the kidney, the pink-eye, and several other varieties, have been added to the list of our kitchen vegetables. New and better varieties of the turnip, parsnip, beet and carrot, render unnecessary a resort to the old ones. The brocoli, the delicate Savoy, and the vegetable oyster, may now be substituted for the coarse and less palatable cabbage. From the south of Europe and Asia have been obtained new and improved varieties of the melon, which have rendered the old ones of no value. The tomato, the okra and the egg plant, are delicacies which, a few years since, were utterly unknown among us, but which are now, or soon may be, obtained in great abundance. Several species or varieties of the squash, equal if not superior in flavour to the pumpkin, have been brought from South America and the eastern continent. Our fruits also have been greatly multiplied. We have all the fine varieties of the strawberry from Europe; also the gooseberry, the currant and the raspberry, in the greatest perfection. We have the best species of the grape from every quarter of the world; and not simply in stinted quantities, but flourishing in large vineyards. A respected citizen,* with a zeal and enterprise rendering him a benefactor to his country, has extensively cultivated the best flavoured and the most productive species of this fruit. In less than six years, the worthy proprietors of the "Albany Nursery" have introduced from the London horticultural establishment, and other principal gardens in England and France, more than two hundred and fifty new varieties of the apple, the pear and the plum.

But horticulture not only contributes to the improvement of culinary fruits and vegetables; but has been, and, no doubt, will continue to be, an important auxiliary to the healing art. The Botanic Gardens at Chelsea, Oxford, Cambridge and Liverpool; the gardens belonging to the Dublin Society and Trinity College, and the Royal Botanic Garden of Edinburgh, indicate the high estimation in which horticulture, in connexion with the healing art, has been held in those enlightened countries. The most eminent physicians, both at home and abroad, have been zealous advocates for public botanical establishments; and though the utility of this plan, under our government, may be justly questioned, yet the benefit of cultivating, for domestic use, medicinal plants, whose properties are well known, and the preparation of which is not difficult, cannot be doubted.

In my opinion, however, horticulture is still more valuable as a source of ornament.

"A tree," says an able writer, "in itself is the noblest object of inanimate nature; combines every species of beauty, from its sublime effect as a whole, to the most minute and refined expression of mind in the individual beauty of its leaves; exhibits that uniformity and infinite variety which constitutes the essence of relative beauty; and the natural expression of individual species are as various as their forms and magnitude, their utility to man, and their situations, soils, climates and other general and accidental circumstances of which they are indications." Nothing, certainly, contributes more to rural ornament, than the tasteful disposition of trees. Architecture, painting, statuary, and all the fine arts, are infinitely less beautiful than rich and variegated foliage, tangled and luxuriant thickets, decorated lawns, and extensive avenues. These, in the absence of artificial embellishments, will not fail to be satisfactory; but for the want of them nothing can atone. A residence without trees, in defiance of every other ornament, presents a cheerless and barren aspect. Were the most attractive places, of which the world boasts, divested of their umbrageous beauty, they would instantly cease to delight. Instead of the enchantment and witchery they now possess, they would be uninteresting, if not repulsive. The Battery, the Boulevards, and the classic cities of Oxford and Cambridge, are vastly indebted, for their magnificence, to the venerable trees with which they are adorned. Speaking of the most attractive parts of Paris, says a fine writer, "their beauty is much heightened by the detached villas and palaces they contain, surrounded with gardens, in which the lilac, the laburnum, the acacia, and other ornamental trees, are most conspicuous."

And from the enterprize, industry, and taste of the founders of the "Albany Nursery," this country will be able, in the course of a few years, to vie, in the use of ornamental trees and shrubs, with any portion of the world. Their additions are numerous and exceedingly beautiful. In the course of a few years, the varieties of their annuals have been increased threefold, and their perennials have been more than quadrupled. Native and exotic trees, shrubs, and almost every thing of the ornamental kind, are to be there had, in a healthy and vigorous state; and on moderate terms.

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* Messrs. Buel and Wilson.

† Messrs. Delavan, Slingerland, Denniston, J. T. Norton, Spencer, Stafford, &c. &c.

* Major H. A. Fay.

From this hasty and imperfect review of the benefits of Horticultural Societies, I am induced to hope they will continue to derive from the public liberality, that patronage their utility deserves. By the accession of active and efficient members; the attendance at their periodical meeting, of influential and intelligent citizens; the assistance, in the way of observation, experiment, and correspondence, of the learned; they will, I trust, continue, with increasing usefulness and efficiency, their patriotic labours:—There is no secular institution, in this city, which deserves the public patronage more than the society to which I now allude. Its improvement of fruits and vegetables, grateful to the palate; of plants and flowers, delightful and captivating to the eye; and of trees ornamental to our court yards and promenades, have imposed upon the patriot, the man of taste, and the epicure, lasting obligations to be thankful. As an humble individual, not belonging to the Society, I beg in conclusion to tender to its members, my unfeigned thanks for the permanent and increasing benefit they have conferred upon the public by their united and well directed enterprise.

FALL DRESSING ASPARAGUS.

About the beginning of November, when the tops become yellow, cut the whole off close to the ground, and deposit them in some convenient place to rot; hoe up and rake off from the surface of the beds and alleys all weeds, and turn them in with the tops, to rot also. Every other year at least, the beds would be the better of manure, and this is a good time to apply it. Cover the surface of your beds, therefore, one or two inches with well rotted short manure, or other compost, and point the whole lightly over the surface an inch or two deep. The alleys may be covered deeper with coarser manure—and the management of them is an essential point in the culture of asparagus, for from them the beds are continually to receive additional renovation. Therefore, after they are all well covered with good strong manure, they should be marked out by the line and spade, eighteen inches for the outside ones, and two feet for the others. Then at the end of one of the two outside alleys, its end to a length of two feet, and a depth of two spades, shovellings and all, must be taken out, and deposited opposite the end of the next two feet alley. The dung, also, to a distance of other two feet, must be removed to the end of the alley with that first removed—then the upper spit turned into the bottom of the first opening, and the fine shovelings below it thrown upon one half of the bed, to a thickness of one or two inches. On the top of the next spit will be the layer of dung deposited on the first trenching; and that, with the bottom spit, must be turned upon the top of the first opening. The next two feet of dung must be turned into the bottom of the second opening, as also the upper spade full of earth; the shovelings upon the top of one half of the bed, and so on, to the end. The next alley must be opened at the end where the first alley is ended, and its opening closes it; and is itself closed at the other end by the opening of the first. The shovelings between the first and lower spit of this, and all the two feet alleys must be spread alternately to the right and left, on one half of each bed, and their openings and closings effected in the same manner. The beds will then be in good order for winter. Yet if those who live near the shore, could add an additional covering over all, at least the beds, of rock or sea weed, to a depth of several inches, it would be of much advantage to the plants. Any kind of long litter would be good; still the beds will sustain no injury, although it should be inconvenient to apply either of the two last, provided the first operations are duly performed. And in whatever year the first operations are dispensed with, the second, of covering well, must not on any account be omitted.

[*Wilson's Economy.*

Abridged Translations from the "Annales de L'Institute Royal Horticole de Fromont." By the EDITOR.

One of the leading articles in the 2d number of the present volume of the Annals, is a long notice of the Young Gardener's Assistant, by Mr. Thomas Bridgeman of this city. The editor, the Chevalier Soulange Bodin, speaks of the little work in very commendable terms.

The next principal article, extending to 15 pages, is a letter from Count Montelron of Clervant, near Chatelbrant, on his collection of trees. He endeavors to remove the objections of Europeans to American forest trees, on account of the greater proportion of liburnum or sap-wood. He supposes the extra sapwood, and the lightness of American trees, particularly of oaks and walnuts, to be occasioned by the salts and abundance of vegetable nourishment existing in our virgin soil, giving them a very luxuriant growth.

He supposes that the American species cultivated in Europe will make timber equally solid and durable.

The writer gives long and full tables of planting, and acquired height and circumference of a great variety of trees during the course of 10 to 50 years.

In support of the opinion that soil and climate affect the durability of timber, it has been observed that steamboats built in the valley of the Mississippi, independent of the greater dangers of navigation, are not as durable as those constructed in the more eastern states, where the soil is less luxuriant, and the growth less rapid. Perhaps the difference in the combustibility as well as the durability of wood, depends as much on the soil as on the season in which it is cut.—*New York Farmer.*

RURAL ECONOMY.

NEW THEORY OF BOTS IN HORSES.

MR. SMITH: *Walkinsville, August* 1, 1831.

Should you think the following of sufficient value, I wish you would have it published in the Farmer. A late writer says he has tried all the remedies for bots without success. Had he stopped here I should have thought him a person of correct observation; but when he says "chickens chopped up and thrust down the throat of a horse while warm," he relies on more than all the other remedies he has tried for the relief of a paroxysm of bots, I conceive prejudice has, even in spite of himself, got the better of his judgment. Also, when he says, "hickory ashes and salts, given twice a week, is a preventive," judgment gives way to old prejudice. I say all horses have bots, more or less, at particular seasons; that the most healthy and fat horses have them most abundant; that they never kill or injure horses; and that there is only one way to reduce them, which is to starve the horse, and use him badly, till he becomes very poor. I now give you my reasons for saying so. Those who have dissected many horses know, that poor horses never have near as many bots as fat ones; this is a fact that none can dispute, who have experience. Hence I say, make a horse poor and you have a certain means of diminishing the quantity of bots. I have never known a horse out of use, in a pasture, said to have died of bots; this I believe no one will dispute. Almost all the horses said to have died of bots, were fat, well kept horses, in use. This I believe will also be acknowledged. Now, when we come to the real truth, very few, and I believe not one horse ever has died of bots; the death which cholic caused, is put upon a very harmless insect, and which is, doubtless, necessary to the health of the horse. 'Tis said that dissection proves death to have been caused by bots, because the bowels are found perforated; 'tis not more certain, that rats will never eat a hole through a vessel at sea below water mark, than that bots will not eat a hole through the bowels of a living horse. If what I state as fact will not be taken as such, what I relate will prove it. A very fine saddle horse had the humerus dislocated; I purchased him for a trifle several weeks afterwards, thinking I could reduce the dislocation. The animal, otherwise, was in good health; he was bled till he fell; I then with ropes and other contrivances put the joint in place. I never saw a horse bleed so much before he fell; he got up and walked a few steps, and fell dead. I had him opened immediately, and found a great many bots; and the part where they were most abundant very much perforated; some appeared to have just began to eat, and some had gone about half through. My brother's race horse killed himself leaping over a fence; he was the best horse I have ever seen, and very fat. A few hours after, he was opened and found to be very full of bots, and the parts nearly eat up. Now the fact is, that the bots, while the horse is living, never injure him; but so soon as he is dead, they begin to eat whereever they are, and very quickly make the paunch or gut into a honey comb. Hence, when cholic kills a horse, his death is sudden, and his bowels being found perforated by bots, he is thought to be killed by them. Some years ago, a gentleman drove up to the tavern where I was, about mid-day, in the heat of summer; he had a very fine pair of greys—the horses were taken out and put in the stable; but before they were fed his boy came to inform him that one horse had the bots. I went to look at him; he had all the symptoms horses generally have when thought to have bots; I begged to be allowed to prescribe; but a horse doctor's prescription was more valued; accordingly, a chicken's bowels were forced down the throat, the horse rapidly grew worse; another horse doctor told of wonders he had done with copperas; accordingly the horse was drenched with that. In a little time the other horse was taken the same way; the symptoms were exactly similar. I now again offered my services, stating to the gentleman, that as both horses were fed alike, drove alike, &c. 'twas reasonable they might both be taken with cholic, at or near the same time. While examining this horse and arguing the case, news came that the first one was dead. The last one was now given up to my direction; he was bled till he fell, one ounce of laudanum poured down his throat, and his flanks well rubbed; in a little time he was well—the dead horse was now opened, and as I expected, many bots were found, and his bowels perforated. To convince this gentleman more fully, I now repeated experiments I had tried before. Twelve two ounce phials had bots put in them; one had milk put in it, another water, another nothing, as a standard; we then filled the others with a strong solution of copperas, a solution of arsenic, aqua fortis and water, a solution of corrosive sublimate, &c. Nine of them being filled with such things as were thought to be most likely to kill them. The arsenic, copperas, and aqua fortis, appeared to have no effect on them; they appeared fully as contented as those in the water. Those in the laudanum, however, moved less than the others, remaining apparently dead at the bottom of the phial, but moved when touched; after keeping until we were all satisfied that nothing that a horse could take would injure them, they were all thrown away. But how comes it, that the bowels of horses are found perforated by bots? If we recollect the conduct of all insects that infest living animals, we should only expect bots to do as they do; after death, worms in the bowels of children crawl out at the mouth and anus very often; lice leave the dead, ticks loose their hold on dead cattle as soon as they die; fleas will not remain on dead dogs or dead hogs.—All insects that live on or in animals, endeavour to make their escape as soon as the animal dies; and bots, so soon as the horse dies, endeavour to make their escape by eating a passage out. Or else, knowing the animal is dead, eat a last meal from choice. Will it not appear strange that bots raised in the bowels of a horse, and never using flesh as food, should, all of them at the same time, change their appetite and commence eating his bowels? In horses said to have bots, a common symptom is to bite their sides; this is said in fact to be the best symptom by which to distinguish bots from cholic. Dissection will prove that, some horses that do not bite their sides, are very full of bots; and some that bite their sides do not bite near the place where the bots are found. Now all these facts and many more that I could mention, for I have paid much attention to the disease, convinces me, that bots never injure horses; but that horses in use, fed on dry food, subject to irregularities in exercise, in food, and in drink, are subject to cholic, which often proves fatal. When opened after death, the bowels are found perforated by bots, and death is supposed to be caused by them. But if death occurs at some seasons from any cause, and the bowels are found perforated in the same way, which dissection will prove to be the case, doubts should arise as to the horse being killed by bots. If a horse have the symptoms said to be produced by bots, and be opened the moment of death, and his bowels be not found perforated, it should confirm us in our opinion that bots do not destroy horses; and dissection will always prove this to be fact. Observe, the horse is to be opened the moment he dies, for 'tis astonishing how quickly they commence eating, after the horse dies. If not opened with this express view, we shall always be too late. I had one horse taken in this way; every preparation was made before he died, and as soon as he breathed his last breath he was opened; the bots were found attached to the bowels, but none appeared to have begun to eat; before the bowel could be taken out and carried home, it was perforated like a honey comb. Now, if, as I have stated, which any person can try, the bot lives apparently contented in arsenic, copperas, aqua fortis, &c. &c., what hope can we have that the horses' stomach can bear any thing that will injure bots? Some even think that melted wax can be poured down the throat of a horse, and hold bots fast when it cools; can any person think a horses' bowels could bear wax melting hot without killing the horse, or that it would not cool before it reached the bots? The fact is, stabled horses at particular seasons, discharge bots without taking any thing. I have several times found them in the stable when nothing had been given, and at those seasons when medicine is given, bots are found, if examination is made, and they will be found if examination is made when no medicine is given. Any person that will try experiments, often repeated, will come to the conclusion that we know of nothing that can be given to a horse that will destroy or even disturb the bots. If I could depend upon any thing from the experiments I have tried on living bots out of the horse, it would be to stupify them with laudanum, and then give brisk cathartics. But now to come to the treatment: a horse is taken with a violent cholic, rolling on the ground biting his side, sometimes much swollen, and other times little or none; apparently in great pain. Tis pronounced a case of bots, and while we are preparing chicken bowels to cram down his throat, solutions of copperas, &c. &c., to destroy the bots, the animal dies with cholic; an hour or so afterwards he is opened and his bowels found perforated by bots; we are satisfied he died from bots, without reflecting that these same bots were in him yesterday; that some cause more than mere whim in them must have caused them all to change their appetite so suddenly; that if they really did cause the death of the horse there would be no preventive, as experiment would prove that nothing as yet known would disturb them before they would have time to kill the horse; and whether they might not have commenced perforating the bowels after the horse died. One experiment by opening a horse before he was fully dead would convince all that bots were not the cause of death. The proper way to treat the horse would be to give an ounce of laudanum as soon as he is taken; then bleed until he falls; while down give two quarts of castor oil, and rub his flanks hard and continually; if he is not swollen he will be almost certain to recover; but if he swells very much and becomes unable to rise, as a last resort fearlessly plunge a long bladed knife into his flank just where there is a curl in the hair; much air will escape at the wound, and in most instances the horse will be better immediately. 'Tis probable, if this operation were performed sufficiently soon and boldly, it would seldom fail. R. R. Harden.

THE FARMER.

Baltimore, Friday, Dec. 2, 1831.

New Theory of Bots in Horses.—We request attention to the communication from Dr. R. R. Harden, of Georgia, on the subject of bots in horses. The position he takes, that bots are perfectly harmless, if not of sanatary use to the animal, and consequently that horses are never killed by them, is new to us, and will be, doubtless, to many of our readers. We have read the article several times with increased interest, and with admiration of the ingenuity displayed by the Doctor in sustaining his theory. If he has not reduced his illustrations to perfect demonstration, we should like to have the points wherein he has failed pointed out. If the theory be the true one, then it is of the utmost importance that it be universally disseminated; for of all the diseases by which horses are killed, there is none so common as that universally attributed to bots. To our minds Doctor Harden's arguments are conclusive; for who ever saw animals or insects preying upon living flesh? The shark takes off a limb, or destroys the life of the animal, before he eats the flesh; beasts of prey kill before they eat, and vermin are never found preying on sound flesh. Worms in the human body do not prey upon the substance of the intestines; and we might expect them to do so, if any, because they are in a measure habituated to animal food, as it forms a considerable portion of the aliment of the person in whom they exist. Some animals it is true, swallow living animals; such as large fish swallowing small ones,—snakes swallowing toads, chickens, birds, &c but it must be remarked that they do not chew or gnaw the flesh, but smother the animal to death in the stomach. These have no other means of killing their victims, and the destruction of life, both animal and vegetable, is absolutely necessary to the commencement of digestion. If grain be taken into the stomach of a horse, unbroken either by the teeth or some other means, it will pass off uninjured; this is the case with all seeds. Birds swallow seeds unbroken; but then they provide gravel, by the friction of which in the stomach, the seed is broken. Hence we conclude with Dr. Harden, that bots do not eat the substance of the intestines of the horse while living; nor do we believe they *eat* it at all; we rather suppose that they gnaw a passage out of the place of their residence, which has been rendered uninhabitable by the death of the horse. We invite the most thorough scrutiny of this theory, and shall feel obliged to any one who will successfully controvert it; for we profess to be in the pursuit of truth, even though the chase shall lead us to the trampling upon some of our own most cherished grounds.

Parmentier's Horticultural Garden for Sale.

We understand that Madam Parmentier finding it inconvenient to carry on the Horticultural Botanic Garden at Brooklyn, has determined to dispose of it. This offers a fine opportunity for a person disposed to enter upon that business. The establishment contains about fourteen acres of ground, enclosed by a very high stone wall laid in lime mortar, and is situated at the junction of two of the most public turnpikes on Long Island, within two miles of New York. The stock of saleable trees consists of 13,726 Forest Trees, 10,616 Grapevines, 10,000 Pear trees, 3,000 Cherry trees, 6,200 Apple trees, 1,621 Quince trees, 600 Plum trees, 361 Apricot trees, 2,460 Peach trees, 2,100 Mulberry trees, and 6,300 Shrubs, exclusive of the trees in the alleys and borders, Rose bushes and seedlings. We are not informed as to the terms on which the establishment is to be sold. We regret that any circumstance should render it necessary for Madam Parmentier to dispose of the establishment. The recent death, however, of her son, on whom she so much relied to take charge of it, seems to have influenced her determination. The late Mr. Parmentier expended an immense amount of money on the place, besides several years of hard and incessant toil, and we know it to have been his most anxious desire that his family should keep possession of it. But he did not foresee the melancholy change that was so soon to take place. If any female is qualified to carry on such an establishment, then is Mrs. Parmentier—assisted as she is by one of the most intelligent and active young ladies (her daughter,) we ever met with. But all who have such concerns, even of small extent, knew the hopelessness of being able to get assistants who will take that peculiar care so indispensable to success. Mrs. Parmentier and her daughter are well qualified to manage the whole concern so far as females can be; but then there are thousands of instances requiring the eye of the proprietor which females cannot supply. We shall endeavour to obtain the terms of sale, and will render all the assistance in our power both to Madam Parmentier and those wishing further information on the subject.

Baltimore and Ohio Rail-road.—Although it may appear to some of our readers that we are deviating from the straight line of our duty in noticing works of internal improvement, we cannot allow the present epoch in the progress of the Baltimore and Ohio Rail-road to pass unnoticed even in the American Farmer. If the agricultural community would furnish us with an occasion for exultation in the improvement of their own interests, of half the magnitude of the one under consideration, we assure them we would never move the pen in any other cause. But who can bear always to drive the plough, in interminable furrows, in an illimitable old field, with no prospect of improved crops ahead and nothing but bleak and barren wastes behind? If agriculturists will not furnish us with themes for eulogy in our own department, why then we must borrow from our more enterprizing neighbours, the internal improvement folks. But in truth the rail-road is as interesting to agriculturists as to any other class of citizens, both immediately and remotely. Immediately, because it opens a new and very cheap way to a market, creating a market for many products before unsaleable; and remotely, because it contributes largely to the general prosperity of the country, which is felt by no class of citizens to half the extent that it is by them.

The important event to which we allude, as forming an epoch in the progress of the rail-road, is the completion of a track to the city of Frederick, (about 60 miles in length) and its formal opening for the transportation of merchandize and passengers, which was to take place yesterday. This event was to be celebrated by an entertainment in Frederick, to attend which the president and directors of the rail-road company were to go out in a train of cars. This is now the longest rail road in the world in actual operation, and will soon decide the question between rail roads and canals; as the immense quantity of produce and merchandize continually passing between Baltimore and Frederick will put the expediency of their transportation upon rail-roads to the test, as well as demonstrate by practical illustration the comparative economy of rail-roads and canals, the New York canals having furnished data for the latter.

The value of the rall-road between Baltimore and Frederick can scarcely be estimated. Besides the cheap and expeditious transportation of produce which now finds a market in Baltimore, many articles which would not hitherto pay for transportation will become objects of attention. Firewood will form one new object of attention to persons living on the line of the road. It is useless, however, to attempt to enumerate or estimate the advantages of this splendid and stupendous work. We shall soon see them and feel them; all of us, farmers and mechanics, countrymen and townsmen, will feel them alike, will be benefited alike, and will with one accord join in awarding honors to the heads that contrived, and the hands that wrought this magnificent work.

DURHAM SHORT HORNS.

Mr. Smith: *Anne Arundle Co. Nov.* 15, 1831.

Sir,—I have read with much satisfaction in your last number of the Farmer, your flattering description of "Spring Dale Farm," and fully concur therein, indeed it would be difficult to say too much in favour of the estate, or its enterprising and worthy proprietor, and if some of our farmers would, like yourself pay him a visit with a view to put in practice some of his judicious and well arranged plans of farming and breeding cattle, we might hope to see a favourable change in some of our present slovenly and meagre modes of management.

The Durham Short Horn Cow Bellina is certainly entitled to all your commendations, but of all Mr. Barnitz's *celebrated* Stock, this is the only one which you particularize as being remarkable for Milk and Butter, and as we often hear of country and unknown breeds that are uncommonly-good milkers,—I wish to know if Mr. Barnitz's breed are all, or generally remarkable for what are usually termed "deep milkers,"—this enquiry is not made from any invidious motive, but solely with a view to elicit information, and the more particularly so, as some Cows of the breed were recently brought into this and a neighbouring county which are remarkable only for being very *shallow* milkers. I am therefore induced to suppose the breed is like most others, some good and some indifferent or bad milkers, but of their form and general appearance I think most highly, *when kept in good condition.*

You remark "that to see these cattle alone is worth a visit to Mr. Barnitz's residence," and afterwards say, "that one of the most beautiful objects at Spring Dale, is a flock of Geese," which induces me to imagine that you are a greater amateur of the feathered tribe, than of cattle. Veritas.

Remarks.—We publish the above as it came to us. To the question whether "Mr. Barnitz's breed, are all, or generally remarkable for what are usually termed 'deep milkers,'" we do not feel bound to reply.—This is a point that has been the subject of much controversy, and we shall not renew it. It must be borne in mind that we carefully avoided saying a word about it in the article which "Veritas" criticises. We have seen much of the Durham Short Horn Cattle, and if "Veritas" pleases, he may look into our barn yard, where he will find a couple of clews to our opinion of the breed, in the shape of a cow and a heifer, kept for family use.

The last paragraph of the article of "Veritas" is singularly unfortunate for the writer, and leaves one in doubt as to what he would be aiming at. We can see no inconsistency in the remarks he quotes.—There may be several objects worth seeing at Spring Dale, and several most beautiful ones, one of which may be the cattle, another the swine, another the sheep, and another the geese; and we may call either of them "one of the most beautiful objects" &c., with perfect propriety. The conclusion at which he arrives, and his *signature* exhibit a feeling on his part which he will excuse us for treating according to its merits.

HONEY LOCUST.

Mr. Smith: *Blennerhassett's Island, Oct.* 24, 1831.

I live on an Island bearing the name above written, and have become a subscriber, with a view to information on the important subjects of "agriculture and rural economy." And permit me to say that although I have received but 30 numbers of your useful and interesting work, (the 29th No. lacking, be so good as to send it) I have already received an adequate compensation for my expenditure. And why are farmers so backward to patronize such works? or why so backward to patronize themselves, for truly, I am, I believe, the only subscriber to your work in this county. It is, sir, not that we have fallen upon evil times, but that we have run into evil habits—the warm and zealous discussion of political matters about which we as little care in reality as we little know. Hence it is that we have more politicians than farmers. Hence it is, that while we are looking with idle gaze to the summit of the temple, that so little regard is had to the foundation—the source of national prosperity and national wealth—to which I might add internal peace and quiet. The true devotion paid to patriotism and the social virtues, is, I should think, in ratio with the progress of agriculture and rural economy.—In reference to the last, be so good, sir, as to say or insert something on the making of hedges, which was the secondary object of my writing—I feel particularly interested in the subject, as I have no timber and but little fencing.—The honey locust thrives best in alluvial soils; I wish to be acquainted with the management of the seed and the time of sowing, and mode of treatment. Your ob't. serv't.

George Neale, Jr.

Remarks by the Editor of the A. F.—The honey locust seed should be scalded and soaked by pouring boiling water upon them, and allowing them to remain in it 24 hours, keeping it warm. The seed may then be planted in drills far enough apart to allow of cultivating the ground to keep weeds down. They should be planted early in Spring, and should be transplanted into hedges when a year old. The seed will vegetate readily, after this process.

We do not believe, however, that honey locust will answer at all for hedges in the very rich alluvial soils of the west. It cannot be kept down, nor made to form a close hedge at the bottom.

It is suggested, that the Washington Thorn would be far preferable. The seed of this may be treated in the same way as those of the honey locust, and the transplanting and formation of the hedge are very simple. There is no hedge to be compared with this in this part of the country. The seed can be obtained here in the Fall in great abundance at $3 per bushel of berries, which would produce, we should suppose, a hundred thousand quicks for transplanting into hedge.

RAPE SEED.

A small quantity of fresh Rape seed just received, for sale by the subscriber.

BUFFALOE BERRY TREES.

The subscriber will receive in a few days a few of the new and beautiful fruit trees originally from the Rocky Mountains, mentioned in No. 5, vol. 13, Amr. Farmer, called *Buffaloe berry tree*, or Shepherdia. This is one of the most beautiful of all ornamental trees, bears delicious fruit, and is perfectly hardy—*price* $1 *each.*

BULBOUS FLOWER ROOTS.

The subscriber has for sale a small but elegant assortment of Tulips, early double and single Van Thol, and common kinds; Crown Imperials and Persian Fritillaries; Polyanthus narcissus, yellow and white fragrant; Yellow fragrant and White fragrant; Double and single fragrant Jonquils, &c.

A few of his splendid collection of new Pæonies and Hemerocalises yet on hand. GIDEON B. SMITH,
Office Am. Farmer.

BALTIMORE PRICES CURRENT.

Baltimore Market.—There is scarcely any change in the market. Wheat is a little more brisk at an advance of a cent or two. Flour remains as before, the wagon price of Howard street being still $5.37½. Wood has advanced, but not, we should suppose, in a ratio to the occasion of it—never has there been known a season of as severe winter weather in November as that just past.

Tobacco.—Seconds, as in quality, 3.00 a 5.00; do. ground leaf, 5.00 a 8.00.—Crop, common, 3.00 a 5.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 10.00; yellow and red, 8.00 a 14.00; yellow, 14.00 a 16.00.—Fine yellow, 16.00 a 20.00.—Virginia, 4.00 a 5.00.—Rappahannock, 3.00 a 4.00——Kentucky, 3.50 a 8.00. The inspections of the week comprise 523 hhds. Md.; 54 hhds Ohio; and 14 hhds. Kentucky—total 591 hhds.

Flour—best white wheat family, $6.75 *a* 7.25; super Howard-st. fresh $5.43¾ *a* ——; city mills, fresh 5.00 *a* 5.25; Susq.— *a* —; Corn Meal bbl. 3.50; Grain, Md. red wheat, 90 *a* 1.10; white do. 1.00 *a* 1.20, Susq. —— *a* —Corn, white, 50 *a* 52—yellow 50 *a* 52—New Corn 43 *a* 46—Rye, 78 *a* 79—Oats, 30 *a* 32. Beans, 75 *a* 80—Peas, 65 *a* 70—Clover-seed 5.25 *a* 5.75—Timothy, 2.00 *a* ——Orchard Grass 1.50 *a* 2.00—Tall Meadow Oat Grass 2.00 *a* 2.50—Herd's, 75 *a* 1.00—Lucerne — *a* 37½ lb.—Barley,—Flaxseed —— *a* 1½-Cotton, Va. 8 *a* 9-Lou. 9 *a* 12-Alab. 9 *a*. 11-Tenn. .8½ *a*. 9½; N. Car. 8½ *a* .9½-Upland 8 *a* 10—Whiskey, hhds. 1st p. 33 *a* —; in bbls. 35 *a* 36——Wool, *Washed*, Prime or Saxony Fleece 48 *a* 57; American Full Blood, 47 *a* 55; three quarters do. 41 *a* 47; half do. 35 *a* 41; quarter and common do. 32 *a* 35. *Unwashed*, Prime or Saxony Fleece, 30 *a* 34; American Full Blood, 27 *a* 30; three quarters do. 25 *a* 27; half do. 22 *a* 25; quarter and common, 18 *a* 21——Hemp, Russia, ton, $245 *a* —; Country, dew-rotted, 5 *a* 7c. lb. water-rotted, 7 *a* 9c.—Feathers, 37 *a* 38; Plaster Paris per ton, 4.50 *a* —, ground, 1.37½ *a* — bbl. Iron, gray pig for foundries per ton 33.00 *a* ——; high pig for forges, per ton, 28.00 *a* 30.00; bar Sus. per ton, 72.50 a 80.00.—Prime Beef on the hoof, 4.25 *a* 5.00—Oak wood, 4.00 *a* 4.25—Hickory, 5.25 *a* 5.75—Pine 2.75 *a* 3.00.

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5. Advertisements connected with any of the subjects of the American Farmer, inserted once, (seldom more) at one dollar per square.
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AGRICULTURE.

(From the Library of Useful Knowledge.)

PLANTING.

(Continued from page 299.)

Modes of transplanting. Much difference of opinion prevails on the comparative merits of the different methods of planting from time to time introduced, and more or less practised. Trenching is held by some to be essential to success, without considering that there are situations and soils where timber of the most valuable quality may be produced that cannot be dug or trenched. Others again infer, that to insert seedling plants into the soil in its natural state is all that is required for the production of timber and underwood possessing every requisite value.

These opinions are too exclusive; they have led to baneful effects, and still are the cause why many extensive tracts of land lie waste, which otherwise might have been covered with profitable plantations. But in more numerous instances, from the same cause, great and unnecessary expenses have been incurred, only to result in a total failure of the plantation, with the consequent loss of time and property. Instances illustrative of these points have been too frequent in the management of the forest lands of the Crown, (which ought to shew an example of practical planting worthy of imitation by the community,) as well as on private estates, to require to be cited here. Well regulated economy in the expense, or first outlay, is one of the principles of the art important to be attended to in practice. Accordingly it is not surprising to find some modes of planting invented, and others misapplied, under the mistaken impression of furthering this principle, at the serious risk of retarding the healthy growth and prosperity of the trees, and of producing results completely subversive of the intention.

The great object of transplanting trees from seed-beds, layer-stools, cutting grounds, &c. to nursery rows, or beds previous to their final transplantation for good, is to increase the number of fibres and rootlets; and by ensuring the free uninterrupted formation of healthy stems and buds, to lay the foundation of a vigorous constitution in each individual plant before it be finally transplanted to its timber site.

The different modes of planting trees on their timber sites are denominated, first, slit-planting; second, holing or pitting; third, trench-planting; fourth, furrow planting. There are also varieties of these characterised by the instruments or tools used for inserting the roots of the plants into the soil.

Slit planting is the most simple mode, and is practised on soils in their natural state, without any preparation of holing, ploughing, or trenching. It is performed by three different kinds of instruments: viz. by the *moor planter,* by the diamond dibble, and by the common garden spade.

1st. The *moor planter* is a heavy instrument, consisting of a wooden shaft and handle two feet nine inches in length, terminated by a single slightly curved prong of well tempered iron or steel fifteen inches in length, two and a half inches broad at the insertion of the shaft, and gradually tapering to the point. The handle is made sufficiently large to be grasped by both hands, and the operator with one stroke drives the prong into the ground to the depth required for seedling trees, and by depressing the handle, the point of the instrument raises up the earth, leaving a vacuity or opening in loose earth, into which a person, holding a plant in readiness, places the root, and with the foot fixes it in the soil. A stout active workman with this instrument, and the aid of a boy, will transplant a greater number of seedling trees on light moor soils than by any other method at present known.

2d. The *diamond dibble* is recommended by Sang:* it is made of a triangular shaped plate of steel, furnished with an iron shaft and wooden handle. The sides are each four inches long, and the upper part or side four inches and a half broad. It is used for planting on sandy and gravelly soils where the surface produce of herbage is short. In this case the planter makes the ground ready with the instrument in one hand, and inserts the plant with the other. He carries the plants in a bag or basket suspended from his waist; he strikes the dibble into the ground in a slanting direction so as to direct the point inwards, and, by drawing the handle towards himself, an opening is made, and kept open by the steel plate for the reception of the roots of the plant by the other hand. The instrument is then removed, and the earth made firm about the roots of the plant by a stroke with the heel of the instrument.

3d. By the *spade,* a cut is made in the turf with the spade and crossed by another at a right angle: the two cuts thus made resemble the figure of the letter T. The handle of the spade being depressed backwards forces open the edges of the cuts, and in the opening thus made the roots of the plant are inserted; the spade is then withdrawn, and the turf replaced by pressure with the foot.

Sir John Sinclair describes an improved mode of slit-planting, as follows: the operator with his spade makes three cuts, twelve or fifteen inches long, crossing each other in the centre, at an angle of sixty degrees, the whole having the form of a star. He inserts his spade across one of the rays, a few inches from the centre, and on the side next himself; then bending the handle towards himself and almost to the ground, the earth opening in fissures from the centre in the direction of the cuts that had been made, he, at the same instant, inserts his plant at the point where the spade intersected the ray, pushing it forward to the centre, and assisting the roots in rambling through the fissures. He then lets down the earth by removing his spade, having compressed it into a compact state with his heel; the operation is finished by adding a little earth with the grass side down, completely covering the fissures, for the purpose of retaining the moistore at the root, and likewise as a top dressing, which greatly encourages the plant to push fresh roots between the swards.*

4th. The defects of the slit mode of planting are, that the earth is not properly reduced in its texture to suit the tender fibres of the roots of seedling plants, and the natural plants of the surface are left to contend with them for the nourishment afforded by the soil, nor can the rootlets of the young trees be disposed and placed in their right positions. The least objectionable practice is to cut a circular piece of the turf, a foot in diameter, and lay it on one side with the surface downwards; the workmen then with his spade loosens and breaks down the texture of the uncovered soil, and, by making ample space for the extension of the roots of his plant in every direction, inserts it in the pulverized earth. The turf which had been reversed and laid on one side, is then with a stroke of the spade divided into two equal parts, and replaced on each side of the plant in its reversed position. The reversed turf supports the plant against the effects of the wind, retains the proper moisture of the soil, and prevents the evil consequences resulting to the lateral branches of the young tree, and to the healthy progress of the stem, from the uncontrolled growth of the herbage natural to the soil,—all of which, by the former modes, are rather encouraged than checked. In uninclosed commons or moors, the natural herbage and shrubby plants are kept under by cattle, &c.; but when such lands are inclosed for planting, and thereby protected from stock, the natural plants, which before appeared diminutive and slow of growth, suddenly attain a size and vigorous vegetation highly detrimental to the young forest trees.

2. *Mattock* planting is confined chiefly to rocky ground, and to soils containing many coarse, tough roots of herbage, heath, &c.; and under these circumstances the mattock is an indispensable instrument. It is thus described in the Planter's Kalendar:—"the handle is three feet six inches long; the mouth is five inches broad, and is made sharp; the length of it to the eye or shaft is sixteen inches, the small end or pick is seventeen inches long. It may be unnecessary to mention that the broad or hoe end should be faced with steel and kept well sharpened; it is perfectly effective in cutting or paring the heath, furze, &c., and the pick end is equally so for thoroughly loosening and fitting the soil to be operated upon with the spade or *planter.* The *hackle* prongs are recommended for clayey, tenacious soils,* which are difficult to work with the spade. It is made with two or three prongs; the former of two for the soil just mentioned, and the latter of three prongs for stony or gravelly soils.

3. *Holing.*—Holes or pits are dug out, and the loosened soil left for a season to the action of the weather, to ameliorate and reduce its texture. Time should be afforded for the rotting or decomposition of the turf or surface produce taken off the space which is opened, previous to the period of planting. The size of the holes should vary according to the size of the plants to be planted, and to the nature of the subsoil. Plants from one and a half to two feet high should have the holes two feet wide and eighteen inches deep, prepared in the summer or autumn for the reception of the plants in spring. For trees of larger growth, the extent of the roots must determine the size of the holes, making an allowance of from six inches to a foot of extra width beyond the extreme points of the roots. Holes made in tenacious clays retain the water which falls into them, and rots the roots of the trees; dry, light, sandy soils cannot be benefited by the pulverizing action of the sun and air; rocky soils admit but imperfectly of holing; and some kinds of binding gravelly soils are as liable to the retention of moisture as stiff clays. The practice of holing is therefore never attended with success on these kinds of soil.

Spade planting applies to land prepared for the reception of the plants by trenching. Although this mode of planting is the most common in use, and may appear to require but little exercise of skill on the part of the operator, it is nevertheless often very badly executed. It is best performed when the holes are made a few inches wider than the roots of the plant extend; the earth of the bottom of the hole should be broken down with the spade, the sides all round should be made to slope inwards, so as to cause the bottom to be wider than the top. The person who holds the plant should then place it in the centre of the pit, and the operator with the spade should have ready some fine surface soil to cover the bottom and raise it up to the proper height, the person holding the plant raising it at the same time, so that it may stand not deeper in the soil than it previously stood.. The earth should then be carefully thrown in a finely divided state, and the plant during the operation slightly moved, so as to prevent the roots from being covered in bundles, and to afford each root and rootlet to have a portion of soil intervening between it and the rest. Treading should be avoided, as it renders the soil cohesive, which in stiff or heavy land is an evil of great magnitude to newly planted roots. In light soils, however, a slight pressure with the foot to keep the plant steady in its place is necessary, particularly if the weather is dry during the season of planting; but in cases where it is practicable, it is much more beneficial to *settle* the earth about the roots of the plants by a free application of water in the usual manner.

It is the best and most expeditious practice to have one set of men to make the holes, and another to finish the planting. When different species of trees are to be mixed in the plantation, and in unequal proportions, each species is successively distributed and planted. What we have already stated respecting the great importance to the success of the plants of not suffering the roots to be dried by exposure to the sun or wind, may render it unnecessary to urge here, that the distribution of the plants on the ground should not be farther in advance than just to keep the planters fully employed. Before laying the plants out on the spots where they are to be planted, it is a most useful practice to dip the roots in water, or in a puddle made of water and rich mould. In planting on a confined scale, the plants may be distributed as before, and two workmen may proceed to open the pits on the spots. As soon as the hole is opened, one of the operators places the roots of the plant in the hole, while the other with his spade finishes the process as above directed. By this method the holes can be made proportionate to the size of the roots of the different plants, which, when of various species, are oftentimes also of different sizes. When circumstances warrant the previous preparation of the soil necessary to this mode of planting, it should be adopted, as being the most perfect and effective.

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* Planter's Kalendar, p. 170.

* General Report of Scotland, vol. ii. p. 283.

* Potney's Profitable Planter.

Furrow planting is performed by opening a furrow with the trenching plough, or with two common ploughs; the one succeeding the other in the same trench or furrow, and opening it to the depth required by the roots of the trees. The roots being placed in the furrow at the proper distances, the workman with the spade finds no difficulty in obtaining the necessary quantity of pulverized soil to complete the work. This mode of planting has been practised with success on the Duke of Bedford's estates in Bedfordshire, and in Buckinghamshire in the neighbourhood of Woburn. The implement employed was a very strong plough, drawn by six horses, and opening a furrow from twelve to sixteen inches deep, turning the sward or heath over on each side. This was followed by a scuffler or grubber of three tines, which completely stirred and pulverized the soil. On light land eight acres a day was done in this way, but the soil must be light and free from large stones or other obstructions.

That extensive and valuable plantations have been made by *slit* planting there are abundant proofs, and on elevated, thin, light soils incumbent on rock, or where trenching cannot be effected or the furrow plough be used, this mode may be adopted with economy and success. Before planting by this method, however, it is essential to know the precise nature of the sub-soil, and that there does not exist a hardened stratum, impervious to water, beneath the surface, which frequently happens in heaths, or siliceous sandy moor lands, it generally consists of the heath-soil in a compact layer about an inch thick, containing a large proportion of oxide of iron, and impervious to water. Beneath, and next to this, is generally grey or white sand, surcharged with water; and whenever trees are planted, by the slit mode, on soils so constituted, they never make any healthy growth, but perish so soon as the roots reach the hardened stratum: trenching, or the furrow plough must be employed in such cases to destroy the impervious stratum, and render free the circulation of water and air, otherwise the attempt to establish trees will be vain. When the land is clean, friable, moderately deep, free from, and not retentive of stagnant moisture, the mode of planting by holing may be adopted with propriety. Lands of a tenacious, clayey nature, and also those of the best quality, employed for forest planting, ought to be trenched, as being the most economical ultimately, and the most effectual, for these kinds of soil. The preparation of tenacious clayey soils by paring, and burning, and trenching, has already been stated.

Since the above was prepared for the press, we have perused the able tracts* on planting by W. Withers, Esq., of Holt, in Norfolk. This gentleman, besides shewing, by facts not to be doubted, the superior advantages of trenching, compared to that of holing or slit planting, in the more speedy returns of profits from thinnings, and extra annual increase of timber in the trees left for that purpose, has likewise proved the value of manure to *poor* soils in conjunction with this mode of preparation. That such a mode of preparation with the application of manure should be highly advantageous for the growth of the more valuable timber trees on soils of the nature now alluded to, will be instantly seen by every one who has examined carefully the natural habits of these trees by the principles of vegetable physiology already discussed; and such as may feel reluctant, or have not leisure, to employ this mode of arriving at a perfect conviction, may be amply convinced by comparing that soil on which the oak, for instance, or any other of the more valuable timber trees, invariably attains the highest perfection, with that on which it or they are always inferior. Compare the constitution of the soil No. 2, at page 7, with that of the soil No. 5, and the almost total absence of clay, chalk, and vegetable matter, will be evident in the former. Now, on this soil the oak, according to our experience and observation, is never found in a natural state, and, when planted in it, never attains to any value as a timber tree even with the aid, as nurses, of the pine, birch, and sycamore, which here succeed. On the soil No. 5, where the constituents of the soil are different from those of No. 2, the oak attains to the highest perfection. To supply manure, therefore, composed of clay (burnt or recent,) chalk, and vegetable matter, or rotten dung, in the requisite proportions, and by deep trenching (remedying, in some measure, the defects of the sub-soil,) and by combining and comminuting the whole as intimately as possible, the soil No. 2 would approximate to that of No. 5, and the oak might then be planted with a certainty of its successful produce of timber. Any smaller application than the requisite quantities of these ingredients will, of course, give a diminished result as to the crop of timber, but still it will give an increase in proportion to the quantity applied.

The principle on which manure is objected to for the rearing of forest-trees, is, that it will force the growth of the tree beyond its natural state, and render the deposit of vegetable fibre soft, and of diminished strength and durability. This, however, is carrying the point to an extreme to which it is never likely to be in the power of any planter to arrive, were he even willing to attempt it. To manure a poor soil, for it should be here kept in view that this and not a rich, or even moderately rich soil, is intended, can have but one effect, and that is to improve the growth of the trees. But the great, immediate, and important object of manure here, is to furnish a liberal supply of food while the plant is in its first stages of growth, thereby giving it the means to form a strong constitution, enlarging its number of roots and rootlets, and, at the same time, improving the quality of the exhalations from the soil, for absorption by the leaves, which is, in fact, an amelioration of the local climate or air. All these important points to the health of the tree, to the value of its timber, and to the attainment of the object in view, a valuable return in the shortest space of time for the capital expended, are thus highly promoted, and, in a great measure, secured by trenching, manuring, and keeping clean of weeds or surface culture for a limited period after planting. As an answer to the important question, will the sum expended in trenching and manuring be returned with interest and profit in proportion to those of the lesser sum required for planting on unprepared land, Mr. Withers has brought forward facts and observations to which we shall revert when discussing the subject of the valuation of timber trees.

The proper distances at which young forest trees should be planted on their timber sites depends on the natural habits of growth of the different species, the nature and preparation of the soil, and the size of the plants to be planted.

The larch, spruce, and pine require less space than the oak, chestnut, elm, &c. The nature of the soil will determine the peculiar species of trees which should predominate in the plantation, and point out the distances at which they should be placed. If the soil is thin and of a light texture, the fir tribe should occupy the largest proportion, if not the whole space of land; if clayey, the oak, elm, ash, &c., should be the principal trees in the design; and, if a deep sandy soil, or if the soil be calcareous, elevated land, the beech, hornbeam, &c., ought to have the preference—all with the view to the ultimate produce of timber. The following table may be useful for readily pointing out the number of trees required for a statute acre of land, when planted at any of the undermentioned distances:—

Distance apart.	No. of Plants.	Distance apart.	No. of Plants.
1 foot	43,560	10 feet	435
1½ “	19,360	11 “	360
2 “	10,890	12 “	302
2½ “	6,969	13 “	257
3 “	4,840	14 “	222
3½ “	3,556	15 “	193
4 “	2,722	16 “	170
4½ “	2,232	17 “	150
5 “	1,742	18 “	134
6 “	1,210	19 “	122
7 “	889	20 “	108
8 “	680	25 “	69
9 “	537	30 “	49

In profitable forest-tree planting, the nearest distance at which young trees should be planted on their timber sites, is a yard, or three feet, and the widest space five feet; the medium distance of four feet plant from plant is, or ought to be, that most generally adopted. Seedlings of three years' growth, or plants which have remained two years in the seed-bed and one year in transplanted nursery rows, should be planted on their timber sites three feet apart every way, it being understood at the same time that the soil is thin, light, or sandy, and that the slit or holing in method of planting is used. But should the soil have been prepared by ploughing and trenching, and be in a clean fallow state, the medium distance of four feet, or three and a half feet, if the species of trees to be planted are exclusively of the fir or pine tribe, will be the most proper. Trees of the age now alluded to will vary in size from nine to twenty inches in height, exclusive of some species of poplar, elm, &c., which grow faster than the generality of forest trees. In well prepared land of a deeper surface soil than the above, plants from eighteen to twenty-four inches in height of the fir tribes may be planted with advantage; and deciduous trees, as the oak, chestnut, elm, &c., from three to four feet in height, may be planted at the distance of five feet apart. In the last case a return of profits from thinnings will be obtained at least two years earlier than from transplanted seedlings, under the like circumstances of soil. Trees planted as nurses for assisting the progress of those intended for timber are of quick growth, and in the course of from seven to twelve years will have attained to a size fit for the purposes of fencing, or to be used as poles, coopers' ware, &c., according to local demand. When the nurse trees have arrived at this stage of growth, they will require to be partially thinned, to make room for the timber trees, or *principals* of the plantation, as they are termed. Whenever the branches of the former interfere with those of the latter, no time should be lost in remedying the evil, by pruning the nurse trees, or cutting them down. If the different operations of planting have been judiciously performed, the value of the trees thinned out at this period will cover the rent of the land, with compound interest on the capital expended in planting it. Hence the importance of nurse trees, and the propriety of furnishing the ground at first with a sufficient number of young plants to be cut down and taken away periodically, until the principal timber trees have attained to maturity. In poor soils, where the original outlay of capital and the rent of the land are both small, the expenditure will be covered by the periodical crop of thinnings, and *vice versa* in better soils, authorizing a larger expenditure in the preparation, in the size of the plants, and in the mode of planting, a comparatively superior number of trees of increased value will be produced at each periodical thinning. These results are certain to follow judicious planting.

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* "A Memoir on the Rearing, &c., of Forest-trees." "A Letter to Sir Walter Scott, Bart., &c." "A Letter to Sir H. Steuart, Bart., &c." By W. Withers, of Holt, Norfolk.

(To be continued.)

THE CROPS.

From the best information, we can state that the corn crop in the Scioto valley was never, in any former year, so abundant, or so luxuriant. This great valley, from its opening at Portsmouth, to its termination at the head of the river from which it derives its name, presents, comparatively, but one continuous cornfield, loading and covering nearly its entire open surface with this valuable staple of our country. The consequence of this exuberance is already beginning to show itself in many thousands of live stock which are assembling to consume this crop and which must bring into our country next spring a much larger sum of money than has, in any former year, been laid out by foreign drovers for that description of property; an estimate of which, with other sources of income to this interesting portion of Ohio, we purpose, shortly, to lay before our readers.

Owing to the state of agriculture heretofore existing here, wheat and other small grains have been but little cultivated by our farmers. The present crop, however, is by no means inconsiderable in this section of the state, and commands a ready cash market.

The abundance which these two crops promise, together with a profusion of almost every vegetable common to this climate; render the means of subsistence here within the reach of every family who will use ordinary industry and economy; and to many, even more than the necessary comforts of life. These are enjoyments which are denied to thousands in the old world and indeed to numbers who inhabit the new, and call loudly for our grateful acknowledgements to him, from whose benevolence they are made to flow.

"Thy bounty shines in autumn unconfined,
And spreads a common feast for all that live."

[*Sci. Gaz.*

HORTICULTURE.

(From the New England Farmer.)

Proceedings of the Executive Committee of the Mass. Hort. Society, at a meeting held at the Hall of the Institution, on Saturday, the 19th of November, 1831.

The following report was made by the President, H. A. S. Dearborn.

The subjoined extract of a letter from Col. Thomas H. Perkins, I obtained permission to lay before the society, although it was not written with any other view, than to do me a kindness. Having some years since built a vinery three hundred feet in length, where he has most successfully cultivated a great variety of grapes, as well as peaches and nectarines, he has during the past summer erected another edifice two hundred and ninety-six feet long, combining vineries, peacheries and a green house, on the most approved plan; and as it is highly important that such extensive experiments should be generally known, that others who may be induced to imitate the example, might avail of the information which Col. Perkins has acquired, I believed that all persons interested in horticultural pursuits would be pleased to read the extract, which I have been allowed to make.

Col. Perkins has made great successful efforts to advance the culture of choice fruits, as well as to encourage a taste for ornamental gardening, as is well known by those who have visited his beautiful grounds. From his extended commercial intercourse with all parts of the world, he has been enabled to collect numerous rare and valuable trees, and plants; and with that liberality, for which he is distinguished, he has freely distributed them throughout the country. Such munificent patrons of useful and ornamental planting, not only accelerate the progress of horticulture, in their immediate vicinity, but the influence of their practical operations is extended over the republic, and will be gratefully remembered by their fellow-citizens.

Extract of a letter from Col. Thomas H. Perkins.

Boston, Wednesday Eve.

My Dear Sir,—I shall call on you in the morning to take you to Brookline, and save you the trouble of making memorandums in relation to the mode of heating hot houses by hot, not boiling water which would raise steam. The water is not heated above 190 degrees. I gave you the principles upon which the present mode of heating is based. At one end of a house of 56 feet, intended as a house for exotic plants, I have a boiler of about 80 gallons; into the *upper part* of this boiler is introduced a pipe of cast iron of 4½ inch bore; this pipe is introduced at the angle of the house into an elbow, from whence it is taken by two pipes of same dimensions into a reservoir at the end of the house of the same size of the boiler. The reservoir is of thick Russia iron, with a cover; the pipes run horizontally from within three inches of the top of the boiler to the same level in the reservoir. At the lowest point of the reservoir the water is returned through a third pipe from the receiver to the boiler on the same level. *The expansion of the water by heat,* drives the water from the boiler through the upper set of pipes into the reservoir, and from thence it is taken by the lower set of pipes again to the boiler, where it is heated and is thus perpetually circulated, giving off an equable heat competent to all the warmth required. The advantage of this mode of heating over flues or steam apparatus is great; in flues the fires must be carefully kept up through frosty nights, or your plants are in danger; with steam, though the heat is soon *up*, yet when the water is below the boiling point the heat is soon *lost*. With hot water not above 190 deg. of Fah. left by the gardeners at 8 o'clock in the evening, heated by Anthracite coal and with the dampers nearly closed, the state of the house if ordinarily tight, will be found in the morning within a very few degrees of the state in which it was left twelve hours before. This mode of heating houses was suggested and put in practice first by Atkinson, from whom I had my watering plans and directions. It is said they have been improved upon by Tredgold. I have seen Atkinson's plan most successfully operated upon by gentlemen both on the continent and in Great Britain—there may be improvements; I know of none which I think such. It is thought one fire will heat the length of a house of 75 feet of moderate height. The house I have heated is 56 feet and the length of pipes 150 feet, being two upper and one lower pipe, and my pipe returns double on the ends of twenty feet, working the whole length 190. The whole extent of my house is a few feet short of 300—the centre 20 feet wide and the back wall 20 feet high, is intended for a green house; the water from the whole extent of glass is collected in a cistern, which contains 70 hogsheads of water, say 7000 gallons—a copper pump raises the water in a cistern, from whence it is distributed, by the medium of leaden pipes, with occasional offset pipes at every part of the entire house. About 120 feet at each end of the green house composes a grape house, or rather two grape houses of 60 feet each and peach houses divided in the same manner, making 240 feet, which is 15 feet wide within the walls; the back wall 17 feet high, except in the rear of the green house where it is 20 feet, the front wall is about 3 feet above ground exclusive of three feet of glazed sashes and stands on brick piers 3½ feet apart to give the roots fair range. In that portion of the house intended for grapes, I displaced the old soil 4½ feet deep and thirty feet wide, that is 15 feet within, the same width without the house, and filled the space with old stable and slaughter house manure with an equal quantity of virgin soil and sods—this has been trenched the whole width three times to the extreme depth.

The other end of the house I treated in the same manner, except that in place of rich manure, I put merely good soil though not rich—this was done to the same width as the other end of the house. The centre house is filled with stone except the place occupied by the pipes and the cistern and a border for creeping plants. I used 201 thousand bricks in the walls—between 26 and 27 thousand squares of 6 inch crown glass—the sashes weigh about 2400 lbs.; the glass is lapped only one eighth of an inch, and without putty between. Your friend and servant,

T. H. Perkins.

It being desirable to extend our correspondence over every portion of the globe, I have endeavored to ascertain who were the most conspicuous for their devotion to the cultivation of the soil in the various countries, with which we have a direct intercourse, and through the mediation of a friend have been made acquainted with the character of Don Francisco Aguilar of Maldonado, in the Banda Oriental, South America. He is distinguished for his attention to the cultivation of all the varieties of fruit trees, and economical plants, which will flourish in that delightful climate. He has recently sent orders for many of our fruit trees, cereal grains and seeds of esculent vegetables, and has forwarded grape vines, and numerous kind of seeds, of that region, to several gentlemen of this commonwealth, who state that he is desirous of opening a correspondence, and to interchange the vegetable productions of the two Americas.

Being extensively engaged in agricultural and horticultural pursuits and largely concerned in the commerce between this country and the territories bordering on the Rio de la Plata and Paraguay, and holding the office of consul of the United States, it would be highly beneficial to the society, to avail of his services, and it is recommended that he be elected a corresponding member.

The following books have been recently received from our attentive and most valuable agent and fellow member, Col. Thomas Aspinwall, Consul of the U. States in London.

1st. A guide to the Orchard and Kitchen Garden, by George Lindley, C. M. H. S. 8vo. price 12 shillings sterling.

This work was published last July. The author was occupied nearly forty years, in preparing the materials for the press, and was aided in the editorial department by John Lindley, Esq. Assistant Secretary of the Horticultural Society of London. It contains a complete account of the fruit trees and vegetables cultivated in Great Britain, and in a form so condensed as to comprehend the greatest quantity of information in the smallest compass, and which at the same time is sufficiently diffuse to render it possible for the reader to acquire as much knowledge as is either important, or indispensable, in regard to any particular variety. Those points, which are so peculiarly interesting to the practical operations of gardening, have been in all cases treated with especial care; such as the kind of soil upon which a given variety of fruit will best succeed. The comparative value of each kind,—the aspect that it requires,—the different names under which it is known in England, or elsewhere,—the book in which a faithful figure may be found,—the purposes for which it is adapted, the seasons when in the greatest perfection,—and the mode of propagating, pruning and training.

There are exact descriptions of the following fruits:

Almonds,	3	varieties.
Apples,	214	"
Apricots,	14	"
Cherries,	28	"
Currants,	6	"
Figs,	27	"
Gooseberries,	24	" with a catalogue of 722 kinds.
Grapes,	62	varieties.
Melons,	24	"
Peaches,	60	"
Nectarines,	28	"
Nuts,	8	"
Pears,	162	"
Pine-apples,	37	"
Plums,	60	"
Quinces,	3	"
Raspberries,	22	"
Strawberries,	62	"
Total,	724	varieties.

The best varieties of esculent vegetables for the kitchen garden are enumerated and the most approved manner of cultivating them lucidly treated; and there is a very instructive kalendar of work to be done in the fruit garden for each month in the year.

This work is an invaluable addition to our library and should be reprinted in this country, for there is no book that would be so universally acceptable to the cultivators of fruits, and the proprietors of public and private gardens.

2d. Pyrus Malus Brentfordiensis, or a concise description of selected apples, by Hugh Ronalds, F. H. S. nursery man, Brentford, with a figure of each sort drawn from nature; 4to, price five guineas.

Mr. Ronalds says, in the introduction, "that after more than half a century of constant practical attention, to their production, I have ventured to publish a descriptive catalogue of those varieties of the apples, which I have thought most excellent, assisted by my daughter Elizabeth, who has drawn them on stone, from specimens of my own growth."

The descriptions are concise, and disposed to point out, in a plain way, the distinct characters and qualities of each kind, with the name by which each is most generally known. The habit of the tree is given, with its history. Lists are added for the orchard, extensive and smaller gardens, for paradise stocks, for the purpose of sale and for walls.

This is truly a magnificent work. There are forty-two plates on which are delineated one hundred and ninety varieties of apples, drawn and colored in the most accurate and beautiful manner, presenting a meritorious example of female taste, skill and industry.

Miss Ronalds has thus erected a splendid ornament to Pomona, which is honorable to her country and will perpetuate her name among the votaries of horticulture, in every region of the globe. How glorious for the age, that ladies should be contending for the prize of renown, in science and the arts, and assuming that exalted station in society, for which they were destined, by the God of their creation. With minds capacious and brilliant, and hearts more ardent and sensitive than man, they have an illustrious example of genius and talent in Miss Ronalds, which cannot fail of producing admirable results, in every civilized country. In letters how rapidly has the female character been elevated, and more cheering indications of its progress, in the highest intellectual attainments. What the lords of creation can perform, woman can equal in either physical or moral achievements, and if we are not derelict in duty, the period is not distant when she will exhibit all her long neglected, but most valuable qualities of admiration, the splendid developments of the mind. Psyche will resume her sceptre, and the rival goddess of personal charms be compelled to do homage to the more lovely divinity of the soul.

Respectfully submitted by
H. A. S. Dearborn,
Pres. Mass. Hort. Soc.
Brinley Place, Nov. 13, 1831.

(From the Gardener's Magazine.)

On the Culture of the Pear, with Remarks on Mr. Hiver's Practice. By Mr. B. Saunders, Nurseryman, Jersey.

Sir—I hope that Mr. Hiver does not consider the observations I made on his article on pears, in vol. vi. p. 53, as emanating from a spirit of criticism, or a wish to condemn his system; on the contrary, my object was to obtain further information on a subject in which I take much interest, and with which he appears to be so thoroughly acquainted.

Residing, as I do, on an island celebrated for its production of fine fruit, particularly of the pear kind; where every cultivator, to a certain extent, prides himself in rivalling his neighbors in his productions; and where, from our contiguity and constant communication with France and other parts of the continent, we have frequent opportunities of obtaining new sorts; I have, within the last twelve years been enabled to prove the qualities of a vast variety, as well as to study their peculiar habits and modes of cultivation.

To be minute in the detail of the relative merits of each sort would create matter too voluminous for insertion here; and, at the present moment, would be a task that would infringe too much on my professional occupations. According, however, to promise, I subjoin a list of such sorts as I deem worthy in every respect of cultivation; classing them as summer, autumn, and winter fruits.

With regard to Mr. Hiver's practice, I wish to state that I differ from him in his mode of shortening the breast wood in the summer to two or three eyes, which occasions fresh shoots, and impoverishes the tree to no purpose. A better plan is, either to displace them entirely when young, or, as I have sometimes practised on very luxuriant trees where there was a deficiency of fruit spurs, to break, in the month of July, the fore right shoots nearly through to within five or six eyes of the bottom, leaving the upper extremity suspended six or eight weeks. This impedes the communication of the two saps, and prevents a second shoot; the eyes at the base most frequently forming themselves into fruit-bearing spurs for the following season.

Your worthy correspondent seems also to condemn the winter pruning of pears. His practice is undoubtedly good as far as it regards trees trained against walls or espaliers, but will not do for trees trained *en quenouille* or *en pyramide.* These require an annual winter pruning from top to bottom; every shoot must be shortened according to its strength, not only to keep the tree in its proper shape, but also to induce a supply of fruit-spurs near the body, which protects the fruit from being blown off or otherwise injured by the autumnal winds, and prolongs the life of the tree in a healthy fruitful state, many years.

Of the different sorts of stocks, I have found the Portugal quince answer remarkably well for most of our free-growing kinds of pears: in particular, if the soil be deep and good, and the bottom not too dry, they shoot freely, and in a short time after planting produce abundance of superior-flavored fruit. Even weaker-growing sorts are valuable on these stocks; as where the garden is limited, and variety required, a double or even triple quantity may be planted, a great object to some cultivators. There are, however, several sorts which do not unite well on this stock, but this may be overcome by double grafting; for this purpose, the Beurrè, Doyennè, Virgoleuse, and Swan's egg, are recommended; but free stocks are much preferable where the soil is high and dry.

I remain, sir, yours, &c.
Bernard Saunders.
Nursery, Jersey, Nov. 1, 1830.

LIST OF PEARS.

Summer.—Green Chissel, Madeleine, or Citron des Carmes, Juneating, Cuisse Madame, Jargonelle, Epargne, Windsor, Bergamotte, summer, Franc-Réal, Epine d'été, Epine rose, Orange tulipée, Ah! Mon Dieu, Belle de Bruxelles, Caillot rosat d'été, Citron panaché, Mansuette.

Autumn.—Beurré d'Amaulis, Beurré de Capiaumont, Beurré Romaine, Beurré doré, Beurré rouge, Bezi de Montigny, Mouille bouche, Léche-friande, Louise bonne, Gracioli, Duchesse d'Angouleme, Bon Chrétien musqué, Gansell's Bergamotte, Messire Jean, Gloux morceaux, Franchipane, Verte longue, Seville, Sucré verte, Bezi d'Echasserie, Doyenné blanc, Doyenné gris, Culotte de Suisse, Autumn Bergamotte, Swiss Bergamotte, Crassane, Marie Louise, Swan's egg, Martin sec, Bishop's thumb, Petit rousselet.

Winter.—Chaumontel, Bon Chrétien d'Auch, Beurré d'Astrasie, Beurré d'Aremberg, Beurré d'hiver, Colmar, Passe-Colmar, Colmar dorè, E'pine d'hiver, Royale d'hiver, St. Germain, Passe St. Germain, Angélique de Bourdeaux, Bergamotte de Soufers, Bergamotte de la Pentecote, Bezi de Caissoy.

Baking Pears.—Bon Chrétien d'hiver, Bon Chrétien Turc, Bon Chrétien d'Espagne, Trésor d'hiver, Gilogil, Belle de Jersey, Poire de livre.

(From the Western Tiller)

GOOSEBERRIES.

Seeing a piece in your paper taken from the American Farmer, on the cultivation of gooseberries, I was led to conclude, that the author (although he has written well on the subject) may lack information, in relation to raising this useful shrub. At any rate it may be useful information to add the following:—when you place your scions of either gooseberries or currants in the ground, cut off all the buds which go below the surface, and they will never sprout, and may be formed into handsome trees. Calvin.

BOTANY.

The botanist attached to a recent scientific expedition from Russia to the Brazils has brought from Rio Janeiro, for the botanic garden at St. Petersburgh, a collection of above 1000 living Brazilian plants, as beautiful as rare, and among which are many never hitherto seen in Europe. This rich acquisition, joined to the young plants which the garden has already obtained from Brazilian seeds, will soon be sufficient to fill a large green house, where the lovers of botany in the 68th degree of N. latitude may form an idea of the beauty and variety of the flora of a vast country situated between the tropics.

[*London Literary Gazette.*

New Species of Elm Tree.

Mr. David Thomas describes, in Silliman's American Journal for 1830, a new species of elm, under the name of Ulmus racemosa. Its specific characters are, flowers in racemes; pedicles in distinct fascicles, united at their bases. It is a tree, and its lower branches have irregular corky excrescences. It is a native of the Cayuga country, in the state of New York, and of the adjacent country.

On Stopping Vines from Bleeding.

Let the part bleeding be forced into a sound potato; for if any of the skin of the potato has been rubbed off, the sap of the vine will soon find its way to escape, and the vine will continue to bleed; but if the potato be free from any bruise, it stops the vine from bleeding.—*M. Saul.*

RURAL ECONOMY.

(From the Frederick Town Herald.)

FREDERICK COUNTY SILK.

We have been politely presented with a skein of beautiful silk, made by Dr. *Jefferson Shields,* a distinguished and scientific gentleman of Emmittsburg, in this county, from worms of his own raising. The machinery by which it was reeled and spun was also invented by him, and, judging from the specimen before us, it must be admirably adapted to the purposes designed. In color Dr. Shields' silk resembles the best Italian—it is very strong, and if not quite so compactly twisted, would no doubt be readily purchased in the market at a high price. It gives us great pleasure to notice these evidences of the skill and persevering industry of our citizens—not that they are intrinsically of great value, but they go to prove that we are capable of producing whatever may be demanded by luxury or necessity, and direct the labor of our citizens to varied and more profitable pursuits. The first silkworms introduced into Italy were brought from India by a pious ecclesiastic concealed in a bamboo staff—and that man would have been deemed a maniac who would have predicted that the product of the smuggled colony would give employment to thousands and tens of thousands of persons: yet such is the fact—and is it beyond the limits of possibility that the raising of silkworms as a beautiful amusement or philosophic pursuit in this country, may lead to the establishment of silk factories, producing fabrics of a value equal to the present cotton manufacture? We will send the skein to *Gideon B. Smith,* Esq. editor of the "American Farmer" who has given the country a valuable treatise on the raising of silkworms, &c. &c.

(From the New England Farmer.)

FATTENING SWINE.

The corn given to your swine should be soaked, boiled, or ground into meal. It is an advantage to let the food for swine ferment a little, but not become very sour, before they are fed with it.—Dough made of meal and water mixed with boiled potatoes, is excellent for swine. Their lodgings should be dry, warm, and kept clean. To prevent measles and other disorders, and increase their appetites, a little brimstone now and then, given in their dough, is useful. Change of food is advisable in every stage of their existence. They should receive their meals with regularity. They should always have as much food as they will eat up clean: but never more than that quantity. If the issues in their fore-legs should be stopped, they should be rubbed open with a cob. "Rubbing and currying their hides very frequently is of advantage to keep up perspiration. It is grateful to the animals, as well as conducive to their health. Every stye should have a rubbing post."

"Having occasion," says Marshall, a celebrated English writer, "to shift two hogs out of a stye without one, into another with a post, accidentally put up to support the roof, he had a full opportunity of observing its use. The animals, when they went in, were dirty, with broken ragged coats, and with dull, heavy countenances. In a few days they cleared away their coats, cleaned their skins, and became sleeky haired; the enjoyments of the post were discernible even in their looks, in their liveliness, and apparent contentment. It is not probable that any animal should thrive while afflicted with pain or uneasiness. Graziers suffer single trees to grow, or put up dead posts in the ground, for their cattle to rub themselves against; yet it is probable that a rubbing post has never been placed intentionally in a stye; though perhaps for a two-fold reason rubbing is most requisite for swine."—Loudon has the following observations:

"Hog-styes for the breeding or fattening of swine, are mostly built in a simple manner, requiring only warm dry places for the swine to lie in, with small areas before, and troughs to hold their food. They are generally constructed with shed-roofs, and seldom above six or seven feet wide, with height in proportion. In order that they may be convenient, they should be at no great distance from the house; and the less they are connected with the other farm-buildings the better. In some cases, it might be of utility to have them connected with the scullery, in such a way, as that all sorts of refuse articles might be readily conveyed to them by pipes or other contrivances. When at a distance, they should be so placed as that the servants need not enter the farm-yard in feeding them. It is a circumstance of vast advantage in the economy of labor, as well as food, to have them conveniently situated and built. Though swine are generally, perhaps from a too partial view of their habits, considered as filthy animals, there are no animals which delight more in a clean and comfortable place to lie down in, and none that cleanliness has a better effect upon with respect to their thriving and feeding. In order to keep them dry, a sufficient slope must be given, not only to the inside places where they are to lie, but to the outside areas, with proper drains to carry off all moisture. The outsides should also be a little elevated, and have steps up from the areas of at least five or six inches in height. Hog-styes should likewise have several divisions, to keep the different sorts of swine separate; nor should a great many ever be allowed to go together; for it is found that they feed better in small numbers, and of equal size, than when many of equal sizes are put together. Proper divisions must, therefore, be made; some for swine when with the boar; others for brood swine, and for them to farrow in; for weaning the pigs, for fattening, &c. When convenient, the areas should be pretty large. And where it can be had, it is of great use to have water conveyed to them, as it serves many useful purposes."

(From the New York Farmer.)

PUMPKIN BREAD.

Mr. Fleet,—Sir, As you have in some of your former numbers furnished us with directions for making rice bread, corn pudding, &c., I presume you will not take it amiss if I call the attention of your readers to the value of the *pumpkin.* I presume there is not a vegetable on the face of the earth, more easily raised, or that is more productive; when it is considered that they will grow among corn, potatoes, or on any waste ground, and that the seed of one pumpkin will produce cart loads of fruit.

In the fall of 1829, I obtained the seed of a very superior pumpkin, part of which I planted the latter end of June following, on ground that I had raised two early crops of vegetables from, and comparatively of little value to me at that season of the year. I began to gather some of the fruit in October; its being extraordinary fine, I was anxious to save every grain of the seed, but the difficulty was how to dispose of the flesh or fruit. The common method of making it up into pies, would have been troublesome and expensive, and I thought them too good to feed swine with. I first gave some to my friends, on condition that they would save the seed, but they did not use them up fast enough; at length my wife tried experiments to work them up into bread, cakes, pies, puddings, &c., and it was not long before we discovered that they could be used so as to answer every purpose as Indian meal, and that our family and friends considered it preferable to any thing of the kind made in the ordinary way.

The pumpkin is first deprived of the rind, and afterwards cut up in slices and boiled; when soft enough it is strained in a culender, and mashed up very fine; in this state it may be used up into pies, or mixed with flour for pudding, cake, &c. If it be intended for bread, it may be made up with wheaten flour in the proportion of one third to half. The spunge must be first set in the ordinary way with yeast in the flour, and the pumpkin worked in as it begins to rise. My wife's rule is, to use as much pumpkin as will bring the dough to a proper degree of stiffness without water. Care should be taken that the pumpkin is not too hot to scald the leaven It requires more baking than bread made entirely of wheat. I am aware that pumpkin bread is nothing new, but I am informed that farmers in the country use Indian meal with their pumpkins instead of wheaten flour, which makes it more like pudding than bread. Those farmers that are in the habit of making their bread with wheat and Indian, may find a market for their meal more easily than for pumpkins, and if they use these up into bread precisely in the same manner as they do their meal, I am persuaded they will find it very wholesome and palatable bread. Yours respectfully,

N. York, Nov. 21, 1831. T. Bridgeman.

[We often have bread made in the above way in our family, and can attest its excellence and economy.—*Ed. Amer. Farmer.*

(From the New York Farmer.)

CURING PORK.

Mr. Editor,—In the New York Farmer I noticed a recipe for making "Knickerbocker pickle," for beef or pork. I will give mine, which I have used twenty-six years with uniform success, and I will tell how and where I got it. In August 1805, I lodged from Saturday to Monday with an inn-keeper in Cherry Valley, N. Y., (who was also a farmer.) On the table, for Sunday's dinner, there was a fine piece of pickled pork, boiled the day before. I tasted it, and thought it the most delicious I ever ate. I requested "mine host" to give me his recipe for curing pork. He replied he would do so with pleasure, and proceeded as follows:—

"As soon as my hogs are dressed and cool enough to be cut, I pack the side pieces in a barrel or cask, with plenty of salt on all sides of each piece, and when my cask is full I immediately roll it to my pump and I pump in water until I can see the water cease to sink in the vessel, or to moisten the salt on top of the cask. I then lay a flat stone, as large as the vessel will receive, on the contents of the vessel, so as to keep the pork always under the salt or pickle. I put it in my cellar, covered so as to exclude the flies, and there it remains until a piece is wanted. Care must be taken to keep the meat under the pickle, otherwise it will rust."

Here is the whole secret of making good pickled pork for family use. I have used this method for the time above mentioned, and I want no better, easier, or economical plan. It has often happened that when I wanted to put down new pork there remained some of the old in the bottom of the cask. In that case, I poured off the pickle, took out the undissolved salt, packed the fresh pork on top of the old, using the salt which had been in the cask, with the addition of fresh if necessary, and then poured on the old pickle or water. In this way I have had pork three or four years in the bottom of my pork barrel, and when used it was as free from rancidity as it was three weeks after it was put down. Indeed I seldom empty my pork barrel except when it wants hooping. I believe that boiling pickle is useless if not injurious. Pork ought not, if it can be prevented, be frozen before it is put down. C.

Princeton, N. J.

WOOD.

We have never known the price of fire wood so high at this season of the year as at present. It has for a long time been at $3 per cord, and during the present week, at $4, and we have been told that it has even been up to $6. At such rates we doubt whether any thing can be brought down the canal or the river that will be productive of as much nett profit as wood.—*Western Tiller.*

MISCELLANEOUS.

Difference of Climate on the Eastern and Western Shores of a Continent.

A notice to emigrants, by the society for forming a settlement in the *Oregon Country*, on the Columbia river, reminds us of some interesting facts connected with climate, which are, we imagine, new to most of our readers. One grand peculiarity, not yet explained satisfactorily, is the superior mildness of the climate of the western coast of a continent, or island, over the eastern, or opposite coast, in the same latitude and elevation.

Thus, for example, while all is sterility and desolation on the eastern coast of North America, even as low as the 55th degree of north latitude, and ice and snow maintain a perpetual existence at the 60th parallel, we find on the coast of Norway, or western coast of Europe, ten degrees higher, that all is life, and animation, and beauty.

The difference of climate between the western coast of North America, and the eastern coast of Asia, is still more surprising, when we reflect that the parts of the two continents to be compared, are only separated from each other by a strait, rather more than forty miles in width. Kotzebue, in his voyage of discovery, undertaken in 1815, informs us, that the crossing of this short extent of water from America to Asia, was like passing from winter to summer. While all was verdure at Cape Prince of Wales, in America, the opposite point of East Cape in Asia, was covered with eternal ice. A few hours sailing directly to the west sank the thermometer from 59° to 43° F.

The general agent of the Oregon Society says, "that the climate on the shores of the Columbia river is remarkably mild and healthful." A person, ignorant of the difference of climate between the two coasts of a continent, might naturally enough look at his map, and having discovered what spot of the eastern or Atlantic coast was of the same latitude as the mouth of the Columbia river, he would infer the mean annual temperature of the latter to be the same as that which he knows the former to possess. He would be deceived in this case, as in any other in which he would take parallels of latitude to measure climates, without reference to numerous modifying causes, among the chief of which, is the kind of exposure just mentioned.

In New California, on the Pacific ocean, they cultivate with success the olive along the canal of Santa Barbara, and the vine from Monterey to the north of the parallel of 37 deg. N. lat., which is that of the country near the mouth of the Chesapeake Bay. The mouth of the Columbia river, in lat. 44° 40m. N. has a mean temperature of 55° F., the same as that of Pekin, in China, on the opposite continent, in lat. 39° 54m. N. Philadelphia, on the eastern side of the continent, is in about the same latitude as Pekin, or nearly five degrees farther south than the mouth of the Columbia river, and yet its mean temperature, 52° F., is three degrees less than that of the latter.

In corroboration of these views, for which we are indebted to the celebrated traveller Humboldt, it may be mentioned, that on the shores of the narrow channels of the Bosphorus and Dardanelles, dividing Europe from Asia, the western coast of the latter continent has a more genial climate than that of the former. In the spring, says Wittman, vegetation is several weeks more advanced on the Asiatic than on the European side, and the productions of the soil more vigorous and of larger growth.

So far, we see that marine exposures to the west appear to give a milder climate; and if we carry our investigations farther, we shall find that the mean annual temperature of places in the same latitude diminish as we advance to the east. Thus Warsaw, the capital of Poland, has a less medium temperature than Amsterdam, on the same line of latitude; it is hotter in summer and colder in winter. Astrachan, at the mouth of the Volga, is nearly in the same latitude as Lyons. The Crimea is not so warm as Upper Italy, to which it corresponds, and although it also presents, equally with the latter, low grounds. Pekin is in the same parallel as Naples, but with less medium temperature, and exposed to much greater vicissitudes.

The interest with which the subject of climate is always studied, as well by the physician as by the naturalist and agriculturist, will justify our indulging in further details hereafter. We shall then show, that even the mean temperature of a place gives but an imperfect idea of its climate, unless we know the difference between its temperature in summer and in winter.—*Journal of Health.*

(From the Journal of Health.)

FLANNEL NEXT TO THE SKIN.

The use of flannel in cold and variable climates has been very generally recommended as the best means of protection for the inhabitants against the effects of extremes and sudden vicissitudes of temperature. There are not wanting, however, physicians of experience and observation, who reprobate the practice as effeminate and debilitating, and productive of some of the ills it was intended to cure or prevent. By analysing these contradictory opinions, we discover, that when authors come to explain their views in detail, there is actually less discrepancy than at first appears. The use of a flannel shirt next the skin throughout the year—winter and summer—night and day, have been declared to be inimical to health; and certainly, as a general practice, even among invalids, is not to be recommended. The body, thus constantly stimulated by a woollen garment, no longer derives that protection in extreme and sudden states of cold and moisture which was promised for it. In summer it increases unduly the discharge of sweat, already too great by the mere heat of the season, and thus contributes to throw this part into a state of languor and debility, which illy prepares it for the wintry cold. There are, moreover persons whose skin is so habitually hot and sensitive, as not to tolerate the application of flannel to this surface. Sometimes, cutaneous eruptions forbid its use, since they are either kept from being cured or are aggravated thereby.—At other times, the sensation of inward heat and thirst are augmented by the irritation of the skin maintained by this cause; hence, in febrile diseases, the physician most generally allows the patient to discontinue the flannel. The manner in which a woollen garment produces its effect is twofold: 1. By numerous points it acts, as it were the part of a flesh brush, and keeps up a mild irritation of the cutaneous surface. 2. By being a bad conductor of caloric it preserves the temperature of the body at nearly a uniform degree; it prevents in cold weather, the escape of the animal heat into the surrounding air; and in summer, or when the body is exposed to the sun's rays, it prevents the transmission of the external heat of the air to the skin. Woollen cloth is, moreover, a bad absorbent; and its interstices not being close, its pores are freer for the passage of the various exhalations from the skin—so that evaporation from this surface is not arrested, and it remains cool. The last property is of course only to be expected in flannel which is not very fine and in that which has not been fulled, as it were, and made thick and hard by repeated washings.

According to these views, a person may be allowed to dispense with wearing flannel, whose circulation and vital functions, generally, are vigorous, and whose skin is habitually warm—that is, developes animal heat largely. This state of things does not necessarily imply, though it is often accompanied with robustness of frame. Where on the other hand, the circulation is languid, the skin, and especially that of the extremities, frequently cold, and digestion slow, flannel is not the first necessity during nearly eight months of the year in our climate. Independently of these considerations, if the employment of a person be such as to expose him to the sudden transition of temperature, as in rushing from a hot workshop or foundry to the open air, or if the labour or exercise out of doors be otherwise so excessive as to cause sweating and fatigue, without the possibility of change of linen, dry rubbing, and passing into a warmer medium, then had flannel better be worn.—But in none of these cases is it necessary to wear it during the night in bed, provided a person be furnished with sufficient covering, and be not frequently required to go out into another apartment, or into the open air in a hurry, without due time being allowed for putting on suitable outer garments.

In a disordered state of the body, as in catarrh, asthma, rheumatism, and bowel diseases, it is necessary that flannel should be worn next the skin; at least the omissions would be attended with risk. It is almost impossible to procure permanent relief from these and various other maladies, with the functions of the skin, and of course its equable temperature being properly sustained. For this purpose, flannel, as the inner garment, seems well adapted, but, to be completely so, its use must be accompanied with the following conditions: 1. That it be regularly and at short intervals changed, its use during the night, with the exceptions already indicated, being dispensed with. 2. That it be not tight to the body, nor of a texture firm and thick by much washing. 3. That friction of the skin, with a coarse towel or flesh brush, be practised night and morning; and spunging this surface with cold or tepid water, according to the season and the temperature of the skin, be had recourse to, before friction, every morning, or, at least on alternate days.

In cases where the skin is not of uniform warmth and is readily chilled, it will be sufficient to use the sponge well squeezed, and just moist, or perhaps damp, renewing, of course, its immersion in water, and subsequent squeezing, several times during the operation of sponging the skin with it. This last condition can be carried into effect by most persons; but there are some who invariably suffer during the colder months, from even sponging their surface with water of the temperature of the air, or under the decided warmth. To such, a warm bath, twice a week will be advantageous. But we are anticipating in this last particular, and shall conclude the subject of flannel clothing, by noticing some of the objections brought against its use.

It is alleged, that the wearing of flannel is apt to cause excessive and exhausting perspiration; but this objection can only apply to the practice of being continued during the summer season, or in hot climates. Flannel is also said to render the skin too delicate and susceptible to changes in the weather. Now, this argument is founded upon a false theory, which supposes that an uniformly sustained temperature enervates—and, that to bear cold, we must be much exposed to it, than which, as has been already shown, nothing is more fallacious.

If the stimulus of the flannel be called for by any of the circumstances mentioned, any excess of stimulation, or of heat of the skin, in consequence, is readily prevented by discontinuance of this kind of garment at night, when the person is in bed, and by the practice of sponging, as just directed. In this way also, is the body safely inured to changes of temperature, to which it must, of necessity, be exposed, in the various concerns of life. Excessive irritation of the skin, or even cutaneous eruptions in persons where this part is very sensitive, may be obviated by lining the flannel with fine linen.

This is a preferable plan to wearing flannel over the shirt, and may be had recourse to in all cases where at the same time in which we want to guard against sudden transitions of temperature, we would avoid the inconveniencies attributed to flannel next the skin. The objection to flannel, on account of its being so long worn without change, applies not to the article, but to neglect of personal cleanliness—and it is also urged, under the supposition of the use of it being unremitted during summer, and at night when in bed. If, from particular causes, a flannel garment be worn at night time, it ought to be replaced invariably by another in the morning, and the first hung up to air during the day. When I recommended that it should be dispensed with by a person in bed, I ought to add that, it is often proper to wear, at this time, a jacket with sleeves, made of coarse muslin, under the common shirt, and next the skin, in place of the flannel. This substitute is the more necessary to invalids who are liable to be alternately chilled and sweated in night, and on whom the flannel would be more apt to produce this last effect. I may add, that, even the robust, who disdain to wear flannel at all, would find their account in wearing the muslin jacket, with sleeves, under their linen shirts if they are much given to athletic exercises, or readily excited to sweat. In the summer season, this will be found a good substitute for the flannel which had been worn next the skin during the winter."

AMERICAN SYSTEM OX.

We have remarked that in copying the notice of the weight of this animal, by a number of our brother editors, the proper distinction has not been taken between his *net* and gross weight. His *net* weight was 2,272 pounds; which, according to the rule established among butchers, is just two-thirds of the weight which he would have reached when alive. Then add one-third to his ascertained *net* weight and his estimated living weight would have been 3,408 pounds!—making him decidedly the heaviest animal of his kind which has ever been slaughtered in America, or of which we have any authentic account in either the British or German stock calenders. We have been authorized further to say, that his enormous weight might have been increased 300 pounds by high feeding, had it not been for the hazard of its proving fatal to him; or, of having rendered him altogether helpless.—*Sci. Gaz.*

THE FARMER.

Baltimore, Friday, Dec. 9, 1831.

A Farm School for the Poor.—We very much doubt whether a more really beneficent *will*, can be found on record than the one we are about to mention. We have no information of the character of the deceased, nor of his wealth or will, but what is contained in an advertisement, which we find in a South Carolina paper. By this advertisement it appears that provision is made in the will of the late *John de la Howe* for the education of twenty-four poor children, twelve boys and twelve girls. The trustees appointed to carry the will into effect, advertise for a teacher, to superintend a farm school as planned and provided for in the will of the deceased. They have provided a good farm, suitable buildings, utensils, provisions and the necessary stock, and offer a liberal salary for a teacher. According to the plan of the school in the will, the children will live together as one family, and the expenses are to be defrayed out of the funds of the estate with the addition of the labour of the children on the farm. The qualifications required in the teacher shew that the intention of the liberal testator are to be carried into effect to their full extent. He must possess an unimpeachable moral character, and suitable habits and attainments to instruct in all the branches of English and scientific literature, subservient to agriculture and housewifery. We consider such a disposition of property by last will and testament, more honorable to the testator than monuments of brass or stone in commemoration of the deeds of the warrior, the statesman, or philosopher. It is, indeed, doing the most good in one's power with the least possible harm to our fellow beings—and this is the acme of human greatness.

Cowpeas.—A friend in Louisiana, in a letter to the Editor of the American Farmer, makes the following remarks relative to the cowpea, which we consider valuable:—

"I have lately noticed in the Farmer, some remarks on the cowpea, and as I have some experience in raising them, I will state the result of my observations. The first time I ever planted them, except with corn, was on a piece of ground much worn and exhausted, off which I had just taken a crop of oats; about the first of June, then broke up the ground, ran furrows across the ploughing four feet apart, in which the peas were dropped and covered with a light plough, followed by one horse harrow, to remove the clods and pulverize the earth. When they were six or eight inches high, I had them ploughed and hoed, which was all the work they ever had. I planted six acres in this way, and in the fall when the pod and leaf began to turn yellow, I had two acres cut and cured for hay, which I think, produced two and a half to three tons per acre. I, at the same time, sowed half an acre (by way of experiment) broad cast, and harrowed them in, and the difference in the product was astonishing; I think four to one in favor of the part drilled and afterwards ploughed and hoed. I discovered, that both cattle and horses preferred the pea to the best timothy hay or corn blades, and have no doubt it affords an equal or greater degree of nourishment than either. The cowpea will succeed well in all the middle and southern states, and on every description of soil. I have tried it, and I have for many years been greatly surprised, more attention has not been paid to its cultivation, as I think it a most valuable crop for feeding stock or restoring worn out lands. It may be raised advantageously with corn, or drilled in the way I have described. I omitted to describe the manner I had the peas cut and cured. The hands took a common knife, followed the rows and cut the vines at the top of the earth, loosened them a little from the ground and turned them over, they were turned afterwards, pretty much as other hay is managed in curing. It requires much longer to cure than hay made of grass, and when put up must be secured under a shelter."

Cultivation of Indigo in Florida.—The reference made to us for information in the following article, induced us to make all the inquiry in our power, but as yet we have been unable to find that any attempt has ever been made to extract the dye from the dried plant in this part of the country. It has been recommended in South Carolina, but we have not been informed of a trial. We recommend that a bale of the dried plant be sent to us, and we will endeavour to get a trial made with it—if successful, it will undoubtedly lead to the commencement of an extensive business.

(From the Floridian of Nov. 8.)

Indigo.—This plant is found in abundance on the pine lands, in this territory. It grows very luxuriantly, frequently attaining the height of six or eight feet. We have no data by which to estimate the comparative value of this plant as a crop, with the other staples of the country, except the amount of exports from the British colonies where it is cultivated. We have reason to believe, however, that it is not less profitable than sugar or cotton. The general impression, that its cultivation is productive of sickness, will prevent its becoming a staple to any extent in this country.

This objection, however, might be removed by the introduction of a practice which is said to prevail in some of the British plantations, where the indigo plant is cut at the proper season, and sent in bales to England, where there are extensive establishments for extracting the coloring matter. It is said that the process is conducted with more economy, and that indigo of a better quality is obtained than when it is necessarily extracted in a less skilful manner on the plantations.

We have conversed with several gentlemen who are anxious to try the experiment of cultivating indigo in this manner, provided they can obtain any information on the subject. The editor of the American Farmer has probably better means of obtaining the information desired than any other, and will confer a special favor on our citizens by ascertaining what would be the value in the northern cities, of a bale of the indigo plant properly cured, and weighing three hundred pounds.

SHORTHORNS AS MILKERS.

Extract of a letter from Charles A. Barnitz, Esq. to the Editor of the American Farmer.

Your correspondent Veritas seems disposed to throw the gauntlet in a way that I ought to take up, rather than you, as respects the shorthorns. I would not invite controversy on a hackneyed subject, especially in a public journal, but I may state facts to justify your remarks. When I had the pleasure of seeing you at my farm, the cow Belina was shewn to you not merely as a sample of shorthorn milkers, but rather as an extraordinary animal for her milking properties, more so than any that Mr. Powel had imported: owing to her peculiar valuable qualities, her calf had been given to a step mother, and she was kept purposely for the benefit of her milking. The other cows you saw have always been kept merely for rearing calves, and were not milked, and we all know that under such circumstances milking properties are not shewn or developed, except so far as is indicated by the fine thrift of the calf.

In another of your remarks I can bear you out. For common farm uses I have had a number of part blooded shorthorn cows, and there are many in my neighbourhood; these have been derived from different bulls which I have owned, but are uniformly found to be superior and rich milkers, which we fairly ascribe only to their shorthorn blood, without taking into view their other improved qualities.

FOREIGN MARKETS.

The Liverpool Times of 25th, gives the following as the state of the markets on the 24th. 21,340 bags cotton sold in the previous week, and market closed firmly at 1 1-8d per lb. advance. The sales consisted of 5890 Boweds at 5d to 6½d, chiefly 5 3-8 to 6 for middling to fully fair: 3610 Orleans, 5d to 7 7-8d, chiefly 6d to 6¾d, middling to fair; 4950 Alabama and Mobile, 4 5-8d to 6½d; 180 Sea Island, 10½ a 19½d, 20 stained do. 6¾d to 7½d. The residue not U. States sorts. The nominal price of rice was 13s to 18s.

Average of Grain.—Wheat 59s 11d; do for 6 weeks, 62s, 38s 2d, 37s 1d. 28s, 40s 9d, 43s 10d. Flour, 14s 10d per brl. of 196 lbs. For other markets, see Liverpool head of 22d October.

Liverpool, *Oct. 24th, Evening.*

There has been a firm market to-day, and the sales with those of Saturday amount to about 4000 bags. In bonded wheat few transactions are reported, but several thousand bbls. of sweet and sour flour have changed hands, the former at 19s to 20s and the latter at 23s to 24s per bbl. American flour has increased in value fully a shilling per bbl. and scarcely any offering.

Liverpool, *Oct. 22,* 1831.

The demand for flour, duty paid has been somewhat better this week; we have also had a pretty good inquiry for flour in bond. We quote the price of free, sour, at 29 to 30s, and sweet at 31 to 34s, and in bond, flour is worth from 19 to 20, and sweet from 21 to 24s. Indian corn, we quote at 29 to 31s the 480 lbs. duty paid, and in bond at 24 to 25s. The duty on flour is 14s 6d.

LONDON, *Oct.* 17*th*, 1831.

There has been recently several large investments made in the American funds, by different Tories. U. S. bank shares, £26 10, with dividend from 1st of July. New York state 5 per ct. 1837, 106 do. do. 1845, 105, do. 6 per ct. 1837, 104; do. do. 1845, 112 with dividend from 1st Oct. Pennsylvania 5 per ct. 1856, do. 1858, 105 with dividend from 1st Aug. Louisiana 5 per ct. bonds, 102 a 3 with dividend from 1st July; do. 6 per cts. 112, with dividend from 1st July. The best paper is discounted at 4 per ct.—There has been a considerable demand at the bank for gold, to supply the country banks, and the wants of private individuals. It has now ceased in a great measure. The bank however, has only about 17 millions in circulation, which is 5 millions less than at the period of the French revolution of July.

Prices Current in New York, Dec. 3.

Beeswax, yellow 19 a 19½. *Cotton*, New Orleans .10 a .11½; Upland, .7 a .10; Alabama, .8 a 11. *Cotton Bagging*, Hemp, yd. 14½ a 17; Flax 13 a 14½; *Flax*, American, 7 a 8.——*Flaxseed*, 7 bush. clean .—— a —— *Flour*, N. York, bbl. 5.62 a 5.75; Canal, 6.12 a 6.37; Balt. Hwd. st. 6.12 a 6.25; Rh'd. city mills 6.12 a 6.25; country, 5.75 a ——; Alexand'a, 5.75 a 5.87; Fredericksburg —— a 5.62; Petersg. 5.75 a ——; Rye Flour, 4.75 a ——; Indian Meal, per bbl. 3.50 a ——; per hhd. 16.25 a 16.50; *Grain*, Wheat, North, 1.12 a 1.18; Vir. 1.12 a 1.16; Rye, North, 85 a 87; Corn, Yel. Nor. 65 a 66; Barley, 1.34 a 1.37; Oats, Sth. and North, .42 a 47; Peas, white, dry, 7 bu. 5. Beans, 7 bu. 7.00 a 8.00; *Provisions*, Beef, mess 7.25 a 7.75; prime 5.00 a 5.12½; cargo —— a ——; Lard .10 a .11; Pork, mess, bbl. 12.25 a 13.25; prime 10.00 a 11.00.

PROPOSAL TO NURSERIES.

William Prince & Sons, proprietors of the Linnæan Botanic Garden and Nurseries, near New York, being desirous to facilitate the formation of Nurseries in every section of our country, as an object of National benefit—are ready to receive proposals for supplying any amount of Trees and Plants for such object, and will in such cases allow a *liberal discount*, and upon suitable explanation will extend a credit to *fully comport with the convenience of the purchaser.* All who are desirous of entering into such arrangement will please apply per mail, and will receive prompt replies. *Dec.* 9.

TO THE PUBLIC.

Having assured my friends and patrons that should I ever find it necessary to lower the prices of my PLOUGHS, that I would give public notice thereof, that every gentleman may know the price he will be charged before he sends his orders—I therefore submit the following reduced prices to the public, which will be my charge from the date hereof.

Balt. Sept. 17, 1831. J. S. EASTMAN.

No. 6	a small Seed Plough, - -	$1 50
7	also a seed do. - . -	5 00
7	improved and a heavier Plough, -	5 50
7	Bar Share for stony land, - -	6 00
8	one or a small two horse Plough, -	5 50
8	large size improved small 2 horse do. -	6 00
8	Bar Share for rough soil, - -	6 50
9	small 2 horse Plough, called the poney do.	7 00
9	large size heavier Plough improved, -	7 50
9	Bar Share Plough for rough soil, -	8 50
	Sword Coulter for the same $1.50.	
10	a large 2 horse or small 3 horse plough,	9 00
10	Bar Share for rough soil, - -	11 00
	Sword Coulter for the same $1.75.	
12	a large three horse Plough, - -	14 00
	Sword Coulter for the same $2.00.	

For sale improved Barshare Plough, and the Scotch Plough improved by Geo. Glezy, together with his usual assortment of AGRICULTURAL IMPLEMENTS and Grass Seeds. He has also received by ship London Packet, a fresh assortment of GARDEN SEEDS, which are believed to be of superior quality. J. S. E.

BOLIVAR FOR SALE.

The celebrated improved Durbam Shorthorn Bull Bolivar, is now offered for sale, one of his present owners being about to give up the breeding of stock. This bull is one of the largest and finest animals in America. If immediate application be made, he will be sold for $300. Apply to the subscriber, office of the American Farmer. GIDEON B. SMITH.

RAPE SEED.

A small quantity of fresh Rape seed just received for sale by the subscriber.

BUFFALOE BERRY TREES.

The subscriber will receive in a few days a few of the new and beautiful fruit trees originally from the Rocky Mountains, mentioned in No. 5, vol. 13, Amr. Farmer, called *Buffaloe berry tree*, or Shepherdia. This is one of the most beautiful of all ornamental trees, bears delicious fruit, and is perfectly hardy—*price* $1 *each.*

BULBOUS FLOWER ROOTS.

The subscriber has for sale a small but elegant assortment of Tulips, early double and single Van Thol, and common kinds; Crown Imperials and Persian Fritillaries; Polyanthus narcissus, yellow and white fragrant; Yellow fragrant and White fragrant; Double and single fragrant Jonquils, &c.

A few of his splendid collection of new Pæonies and Hemerocalises yet on hand. GIDEON B. SMITH,

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FRUIT, ORNAMENTAL TREES, SHRUBS, AND PLANTS.

SINCLAIR & MOORE,

Inform their friends and the public generally, that their stock on hand this season is large, of thrifty well grown trees, except those marked on the catalogue. The fruit in this establishment are all carefully grafted or inoculated mostly from bearing trees, of the choicest collection of American and European fruits.

This nursery will afford purchasers in our own state the important advantage of planting their trees on the first, second, or third day after they are taken out of the ground, (provided the holes for the trees are previously dug, which they always ought to be,) having quick transportation to most every part of the state.

Printed catalogues for this season describing the names of plants, time of ripening, and price, as also directions for planting, to be had gratis at their Plough and Seed Store, Pratt street wharf, Baltimore, or at their Nursery, three and a half miles east of the city, between the Philadelphia and Bellair roads; the best and nearest way to go to it is by going out the latter road two miles, to a pointer of further direction. The senior partner resides on the premises, and constantly superintends the same, and would be pleased to see persons disposed to encourage, or view their extensive collection, where they can see and choose for themselves.

For the information of those who are not in possession of a catalogue, they will mention some of the principal articles ready for sale, to wit:—

Apple, Pear, Peach, Plum, Cherry, Apricot, Nectarine, Fig, Gooseberry, Currant, Raspberry, Strawberry, Quince of sorts—Grape Plants, fine size, many choice kinds, Thorn and Honey Locust for hedges.

ORNAMENTAL TREES.

English Elm of middling and extra large size.

Italian White Mulberry, of do. and large do.

Horse and Spanish Chestnut.

Linden and Sugar Maple Trees, Paper Mulberry, Abeal or Silver leaved Poplar, Yellow and Honey Locust, Chinese Alcanthus, or tree of Heaven, English Walnut, Mountain Ash, Buttonwood, Black Walnut, &c. &c. Balm of Gilead, or Silver Fir, White or Waymoth Pine, Dwarf Box, Cutting and Rooted Plants, Black Double Spruce, Arborvitæ.

ORNAMENTAL SHRUBS.

Roses, both hardy and Chinese or ever blooming, a good assortment, Double Althea a superior collection, Linock five kinds, Snowberry Tree, Grounsel Trees, Roseacacia, Corchorics, Scarlet Trumpet Creeper, White Flowering Virginbower, White Flowering Jasmine, Yellow Flowering do., Scarlet Trumpet, Monthly Honeysuckle, White Striped Monthly do. of exquisite fragrance, Multiflora Rose, Graville's Superb Multiflora, cuttings of Grape, Apple, Peach, &c.

Oct. 14.

BALTIMORE PRICES CURRENT.

BALTIMORE MARKET.--The flour and grain market remains steady at last week's prices. The wagon price of Howard street is $5.37½. Wood is very scarce and has advanced to its maximum winter price. Should the present severe weather continue much longer, there is no hope of further supplies by water, as the navigation is already nearly closed, and consequently wagon wood will command high prices.

TOBACCO.--Seconds, as in quality, 3.00 a 5.00; do. ground leaf, 5.00 a 9.00.—Crop, common, 3.00 a 5.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 10.00; yellow and red, 8.00 a 14.00; yellow, 14.00 a 16.00.—Fine yellow, 16.00 a 20.00.—Virginia, 4.00 a 5.00.—Rappahannock, 3.00 a 4.00——Kentucky, 3.50 a 8.00. The inspections of the week comprise 290 hhds. Md.; 38 hhds Ohio; and 2 hhds. Pennsylvania—total 330 hhds.

FLOUR—best white wheat family, $6.75 *a* 7.25; super Howard-st. fresh $5.43¾ *a* ——; city mills, fresh 5.00 *a* 5.25; Susq.— *a* —; CORN MEAL bbl. 3.50; GRAIN, Md. red wheat, 90 *a* 1.10; white do. 1.00 *a* 1.20, Susq. —— *a* —CORN, white, 50 *a* 52--yellow 50 *a* 52--New Corn 43 *a* 45—RYE, 80 *a* 81—OATS, 33 *a* 35. BEANS, 75 *a* 80--PEAS, 65 *a* 70--CLOVER-SEED 5.00 *a* 5.50--TIMOTHY, 2.50 *a* ——ORCHARD GRASS 1.50 *a* 2.00—Tall Meadow Oat Grass 2.00 *a* 2.50---Herd's, 75 *a* 1.00--Lucerne — *a* 37½ lb.—BARLEY,—FLAXSEED 1½ *a* 1 5-8-COTTON, Va. 8 *a* 9-Lou. 9 *a* 12-Alab. 9 *a*. 11-Tenn. .6½ *a*. 9½; N. Car. 8½ *a*. 9½-Upland 8 *a* 10---WHISKEY, hhds. 1st p. 33½ *a* —; in bbls. 35 *a* 36——WOOL, *Washed*, Prime or Saxony Fleece 49 *a* 57; American Full Blood, 47 *a* 55; three quarters do. 41 *a* 47; half do. 35 *a* 41; quarter and common do. 32 *a* 35. *Unwashed*, Prime or Saxony Fleece, 30 *a* 34; American Full Blood, 27 *a* 30; three quarters do. 25 *a* 27; half do. 22 *a* 25; quarter and common, 19 *a* 21——HEMP, Russia, ton, $245 *a* –; Country, dew-rotted, 5½ *a* 7c. lb. water-rotted, 7 *a* 9c.—Feathers, 37 *a* 38; Plaster Paris, per ton, 4.50 *a* ——, ground, 1.37½ *a*—— bbl. Iron, gray pig for foundries per ton 33.00 *a* ——; high pig for forges, per ton, 28.00 *a* 30.00; bar Sus. per ton, 72.50 a 80.00.—Prime Beef on the hoof, 4.50 *a* 5.25—Oak wood, 4.75 *a* 5.00--Hickory, 6.00 *a* 6.50—Pine 3.50 *a* 3.75.

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On Planting (from the Library of Useful Knowledge) continued; Modes of Transplanting; Slit Planting, Holing or Pitting, Trench Planting, and Furrow Planting—The Crops in the Scioto Valley, Ohio—Proceedings of the Massachusetts Horticultural Society—On the Culture of the Pear, with lists of Summer, Autumn, and Winter Pears—Gooseberries—New Species of Elm Tree—On Stopping Vines from Bleeding—Frederick County Silk—Fattening Swine—Pumpkin Bread—Curing Pork—Wood—Difference of Climate in the Eastern and Western Shores of a Climate—Flannel next to the Skin—American System Ox—Editorial, A Farm School for the Poor; Cowpeas; Cultivation of Indigo in Florida; Shorthorns as Milkers—Foreign Markets—Prices Current in New York and Baltimore—Advertisements.

EDITED BY GIDEON B. SMITH.

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TERMS.

1. Price five dollars per annum, due at the middle of each year of subscription.
2. Subscriptions are in all cases charged *by the year*, and never for a shorter term.
3. When once sent to a subscriber, the paper will not be discontinued without his special order; and then not till the end of the year of his subscription that shall be current at the time of receiving such order; except at the discretion of the publisher.
4. The risk of mail in the transportation of both the paper, and of bank notes sent in payment for it, is assumed by the publisher.
5. Advertisements connected with any of the subjects of the American Farmer, inserted once, (seldom more) at one dollar per square.
6. All letters concerning this paper must be directed to the publisher. They must be free of postage, except communications intended for publication, and letters containing money.

☞ All Postmasters are requested to act as agents for the Farmer; they are authorised to retain $1 for each new subscriber, and 10 per cent. on *all other* collections.

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AGRICULTURE.

AN ADDRESS

Delivered at Northampton, before the Hampshire, Hampden and Franklin Agricultural Society, October 27, 1831. By Samuel F. Dickinson.

The cultivation of the earth is the natural and appropriate employment of man. He was formed of the earth; and his birth place was a garden. A garden too, planted and cultivated by the hand of Him, who created it; in which "grew every tree pleasant to the sight, or good for food; the tree of Life, also, in the midst of the garden."

This exhibition, so rich in the beauties of nature; so luxuriant in her fruits and foliage; was designed to teach the new inhabitant his future employment; and his connection with the earth, which he was soon to be commissioned "to dress and till." And, "the tree of Life in the midst of the garden," contained a direction, as by precept, that, amid all his cares and labors, the worship of his Maker, the Great Proprietor, should hold a pre-eminent place. Thus establishing, by a silent but immutable decree, the intimate relation subsisting between his labors and his duties—a relation as lasting, as his pilgrimage on earth.

How much ought every husbandman to regard his high destination! How deeply feel his responsibility, and his obligation to follow the great example here set before him; and to obey the precept, here so forcibly taught!

Accordingly we find, in the only authentic record of early times, that the oldest son of Adam was "a tiller of the ground;" and that Noah, immediately after the deluge, "became an husbandman, and planted a vineyard."

We find also, in sacred history, frequent allusions to the culture of the earth. Ploughing, sowing, reaping, threshing, seed-time, and harvest, and other like expressions are used; showing, that agriculture was early and successfully in use.

We know also, that, by the longevity of that period, the earth was early and rapidly peopled, and cities builded; and that this immense population could not have been sustained; or those cities builded, without the knowledge and the aid of agriculture.

We know also, that there could have been no commerce, without an interchange of the productions of the earth; and, that where agriculture has not made some advance, arts and manufactures have no place.

Until a people, by occupation or habit, become fixed to some spot, as their home; they have no need of houses or barns; or of implements of husbandry; or of smiths or mechanics to construct them. Among the natives of this country was found no mechanic, manufacture, or commerce. And this is common to all uncivilized nations.

It may, then, be assumed as true, that the cultivation of the earth is the basis of all the mechanic arts, manufactures, and commerce. All depend upon it. And every thing, which lives, and breathes, and moves, whether in the waters, in the air, or on its surface, derives its support from the earth, as the mother of all.

I shall, therefore, need no apology, on this occasion, for specially addressing those, on whom this important business rests: practical husbandmen; those who join naked hands to the axe and the plough; and are not ashamed to bear the scythe and the sickle.

I shall attempt, concisely, to delineate,

I. The character of good Husbandry.

II. The character of good Husbandmen, as connected with their social, civil and moral duties:

I. The character of good Husbandry.

The first characteristic of good husbandry, is to cultivate well.

It has never yet been ascertained, to what extent the earth is susceptible of culture, nor the amount it is capable of producing. Much depends on climate, and the nature and qualities of the soil; but more depends on cultivation. No field has ever yet been so highly cultivated, that it was not capable of higher improvement. In England, the most highly cultivated soil in Europe, there are about two acres and one-third of improved land, to one individual; in France, nearly four; within the limits of this Society, more than seven. Agriculture can hardly be said to have begun its progress, in any country; especially, in the United States. Much is yet to be learned, and taught, and done, on our best husbanded lands.

Assuming as the ratio, that each acre now cultivated, may be made to produce only twice its present crop,—and this falls far short of the truth—it may be made to yield a much greater increase: then cultivating well will save

1. *Capital.* The culture of fifty acres will be equal to that of one hundred; and fifty acres will cost but half as much.

In every enterprise, the amount of capital required enters into the calculation of gain or loss. And this is of no small account to a young New England farmer; whose capital chiefly consists in his muscular strength, his bold and enterprising spirit, and his moral habits.

2. *Cultivating well* saves labor. But half the time is necessary to travel over fifty acres, which is required to travel over one hundred. But half the labor is required to plough, sow, mow or reap, one acre, which is required to perform the like operations, on two. Besides, the earth, being more thoroughly subdued and broken, yields more readily to the plough, the harrow, and the hoe; and every man knows, that a grass field, thoroughly and well prepared for the scythe, is mown with greater ease, and with less expense of time and strength. So of every thing about a farm.

3. *Cultivating well* saves fence, in the same proportion that it saves capital and labor; which is an item of increasing importance; as fencing stuffs, annually, grow more valuable.

4. The produce of one acre, well cultivated, if not more in amount, exceeds in value, that of two acres, poorly managed. It will be of a better and richer quality. Every one knows the difference in the quality of Indian corn, rye, wheat or potatoes, raised in full and large crops; from that of the same kind of produce, raised in sparing and lean crops. The difference is as perceivable, as between the full and blasted ears in Egypt. The same principle is applicable to the raising and management of all kinds of live stock. Every husbandman knows, how much strength is added to his ox, and his horse, by the increase of their flesh; and how much the quality of his butter and cheese is enriched, by the thrift of his cow.

5. *Cultivating well* is a duty. The cultivator owes it to himself; in this way, he increases his profits and consequent usefulness. He owes it to his country; he thereby adds to the common stock. The wealth of a nation consists in the wealth of individuals composing the nation. He owes it to the Great Proprietor, whose steward he is. He appropriates but half the territory, or less, as the case may be, and produces as much; leaving the other half, to be improved by others. He follows, more closely, the example of Eden.

6. *Cultivating well* adds to the pleasures of labor. This is not an unmeaning expression. The seven years of servitude seemed short to the patriarch; because, surrounded by objects pleasant to his view; and enjoying anticipations, pleasing to his thoughts: so, a well cultivated farm, regularly divided into fields, and neatly fenced, with growing luxuriant crops, presents to the husbandman a pleasant and interesting view; affording also, anticipations of receiving the reward of his labors; shortening very much the hours of toil, strengthening all his local and domestic attachments.

7. *Cultivating well* improves the mind, and temper, and habits, of the cultivator. The principle of association is so strong and powerful, that we borrow our thoughts, and feelings, and habits, in a great degree, from objects around us. The influence of "the Grecian skies" is proverbial. Every naturalist is acquainted with this principle of our nature. It is not difficult to learn the temper of any man, when it is known, with what objects he most familiarly associates.

Secondly. Good fences are essential to good husbandry.

1. They save time. The husbandman, who is obliged to leave his team or his labor, and travel to a distant field, to drive out intruding cattle, loses much valuable time, which he knows not how to spare.

2. Good fences protect and secure crops, the fruit and just reward of toil and care; and prevent the pain of seeing them carelessly wasted or destroyed; and in this way, lighten care, and sweeten the hours of rest.

3. Good fences prevent unkind feelings among neighbors; and not unfrequently, vexatious and expensive lawsuits—the evils of which are sometimes seen, and felt, by the next generation.

4. Good fences are an ornament to a farm. An extended plane—an unbroken view of a lake, or an ocean, produces painful sensations; while a landscape, interspersed with hills, and meadows, and forests, and cleared fields, excites lively emotions. Such is the pleasure arising from the view of a neatly and well fenced farm; associated, as it always will be, with considerations of security and profit—and the certainty of finding every ox, and horse, and cow, in his own pasture.

Thirdly. The use of manure is another characteristic of good husbandry.

Most of the soils in New England, and within the limits of this society, require this nourishment and support. And this necessity will always make this a highly favored land. Wherever manure is required, in order to produce good crops, and to constitute good husbandry, there will be, of necessity, industry, economy, and consequent wealth, with domestic happiness. If it should be inquired, what has converted the native barrenness of the counties of Essex and Norfolk, into luxuriant fields and gardens—the answer is, a soil requiring manure, with industry. If it should be further inquired, what has made the inhabitants of these counties prosperous, independent, and happy? the answer is, a soil requiring manure, with industry and economy. A young man, aspiring at vigor of body, independence of mind, and prosperity, with long life, ought, in choosing his settlement, to select a soil, not too barren to reward his industry; yet requiring manure to render it productive. Much of the land in New England answers this description.

In most of the Western States, manure is esteemed of no value. It is suffered, either to accumulate about their barns and hovels, for years; or is thrown into their creeks, as a nuisance. I have, however, never seen this, without witnessing, at the same time, weeds, and wild growth, as rank and luxuriant, as the corn-blades, or stalks of wheat: with miserable husbandry.

That a soil so rich, as to require no manure under the hand of a skilful cultivator, will produce sloth and its kindred vices, is a principle, as unvarying as the laws of nature. The barrenness of New England, which is not unfrequently spoken of at the West, is one of the most distinguished blessings of this enviable land.

While the cultivator of the rich alluvials, and extensive priaries of the West, shall be pale with ague, and inactive and slothful, by reason of the richness of his soil, his farm unfenced, and overspread with weeds and wild growth; the more favored son of New England shall be muscular and strong, energetic and enterprising, intelligent and moral; enjoying the fruits of his industry, in a salubrious atmosphere, and blessed with a surrounding group of healthful, intelligent, well instructed children. Nature is uniform in her operations. A soil so rich, as the valley of the Mississippi, has every where produced the consequences of idleness. Men will not work hard when they can live easy.

That part of Asia, where once was the garden of Eden, where was the promised land: Italy, where was Rome, so proud of her orators, statesmen, and conquerors; Spain, once so distinguished for her science, and her intelligence; Egypt, once renowned for her arts and her power; South America, once pre-eminent for her honour and her warriors; the valley of the Mississippi, with its present population, illustrate this truth.

The destinies of futurity are not in our keeping. What consequences may follow from the great moral efforts, now making to renovate and purify the Western valley, time only can disclose. But, sure as the connection between cause and effect; unless these, or other causes hitherto inoperative, shall exert a mighty and a controlling influence, this great and proud valley must, and will, hereafter, slumber, inactive, unblessed. It is, however, the duty of the patriot, as well as the Christian, to hope; that the religion of the Cross may effect, what science and philosophy, with all their votaries, have so long, in vain, attempted!

In addition to barn-manure, the New England husbandman should be unwearied, in collecting whatever will quicken or support vegetation. Lime is a valuable manure, and highly deserving notice. Mud from ponds, or sunken grounds, common salt, with every kind of vegetable, and animal substance, may be profitably used in compost; especially, if exposed to the action of swine. Changing crops is often useful. Each species of crop seems to extract from the soil a nutriment peculiar to itself; so as not to exhaust, against the demands of a different, succeeding, crop. Alternate ploughing and seeding is a valuable substitute for manure; and an economical method of keeping land in heart. However highly other grasses may be valued in other counties or states; I am satisfied; that no grass, with us, is so enriching to the soil; or nutricious for hay or pasture, as the clover. The quality, which enriches, is not in the stalk, or leaf, of this grass, as is sometimes supposed; but in a black mould, collected about the roots. Whether extracted from the air, by means of its blossoms, its broad leaf, or porous stalk, I do not pretend to say. If turned in, with a plough, for manure, it should stand until ripe. The mature stalk, and full grown leaf seem necessary to collect, and deposit, its nutritive qualities.

A coat of grass, left in the fall, on mowing or pasture-land, is equal to a covering of manure. This serves the double purpose of enriching the soil; and of protecting it from frosts and cold. It is like the clothing of the human body, protecting it from the cold of winter. Every blade of grass left growing, in the fall, will produce twice its value, the next season — Considering the coldness of our climate, this subject has not been sufficiently regarded.

Fourthly. *Deep ploughing* is essential to good husbandry.

The plough is the most important implement of husbandry; too much pains cannot be taken in its construction. A share, so broad as to cut the whole width of the furrow, is essential. Ploughing is the most important operation in husbandry, and deep ploughing still more important. Such parts of the earth, as are not broken, or turned up by the plough-share, yield no support to the growing plant—they are in the way of the roots, and worse than useless.

Deep ploughing brings up more earth for use; gives more room for the roots to grow and extend in; affords more nourishment; and greater security against drought; the deeper the soil, the more moisture is contained in it—and the longer it will resist the effects of heat; the more easily is it moved by the hoe and barrow; and ordinarily, will produce a more abundant crop. There is a quality, nutritive to vegetation, which settles down below ordinary furrows; and which, turned up, brings strength, as well as quantity, to the soil. I have seen pumpkins and other vines grow luxuriantly, on earth thrown out of a cellar, three feet below the surface.

Fifthly. *Neatness* is essential to the character of good husbandry.

This consists in the arrangement and divisions of a farm; the order and style of the buildings; the setting out and pruning, with judgment, fruit and shade trees. The garden of Eden, the great example set before husbandmen, contained "every tree, pleasant to the sight," as well as "good for food."

Neatness also consists in the cutting of bushes, tearing up and subduing hedges; clearing every field of weeds and wild growth; keeping the best implements of husbandry; and in best order and condition; and generally, in keeping every thing as it should be.

There should be "a place for every thing; and every thing in its place." There should also be a time for every thing; and every thing in its time.

More time and labour are saved by neatness, on and about a farm, than ten times its cost. The breaking of a bow pin; or the unsewing of a harness, frequently occasions, not only loss to the owner, and danger to the driver; but sometimes brings sufferings, not to be repaid.

Neatness adds much to the enjoyments of the husbandman; and the pleasures of home. It induces habits of order and propriety; which will, insensibly, be carried into all the business and relations of life. It is enviable, every where, indoors and out; and, if not one of the cardinal virtues, every husbandman, and husband-woman too, ought to be willing to add it to the list. It should be carried into the family—there should be order there. Every one should know his place, and his duty. There should be order in the field, and in all the business of the farm; there should be order every where. "Order is Heaven's first law." Let it never be second to the husbandman, or his household!

Sixthly. It is the character of good husbandry, to be constantly improving.

The nineteenth century finds all things around us progressing. The art, or the business which does not make progress; is like the by-stander on the bank of a stream, whom the current soon leaves behind.

While the inventions and discoveries, in the mechanic arts, and manufactures, within thirty years past, have, with unexampled rapidity, been acquiring for them new skill, and increased powers; agriculture has been, comparatively, stationary; at least, progressed with a slower step. Government has exerted, in behalf of these, its full strength; leaving this to its own protection. And we feel a manly pride, in confiding this important interest to its natural guardians; a virtuous, intelligent, and enterprising yeomanry.— Their ingenuity will suggest new modes of culture; new kinds of crops; new branches of industry; new sources of wealth. The great staples of New England are not yet settled. There will be changes, as there have been, unfriendly to the agricultural interest. The cultivator, therefore, must adapt his system of culture, to the circumstances, to the state and prospects of the country.

The consequences resulting to New England, from the construction of the Erie Canal, which every husbandman has, more or less, known and felt, were promptly met; by increased attention to manufactures and to dairies; the growing of wool; and, in the valley of the Connecticut, the raising of that invaluable plant, the broom corn; with other kindred improvements in agriculture and the arts.

But no branch of domestic economy offers so great encouragement to American industry, as the raising of the mulberry, and silk-worm.

This promises to the North, advantages far greater, than the cotton growing, or gold mines, to the South.

The culture of silk was first known in China; where both the mulberry and the silk-worm are of spontaneous growth. According to Chinese records, it commenced there, many centuries prior to the Christian era. This delicate manufacture in all its mysterious branches, was, for a long time, under the exclusive management of the empresses, and the women of their households; but was, afterwards, spread among all the females of the empire. China was long called "The inexhaustible store-house of silk." From China, it made its way into the other parts of Asia; and subsequently, into Europe; successively, into Greece, Italy, France and England. Into Greece and Italy, many centuries ago; into France, about two hundred years ago, more recently into England. The raw material is still raised in great abundance, in these, and other countries of the East; excepting England; her climate does not admit of its growth—the skill of her artists is exercised in the manufacture alone.

Nearly one hundred years ago, the growing of the mulberry-tree was commenced in Georgia; and, in 1766 twenty thousand pounds of cocoons were exported from that State; and sold in England. Soon after, a similar beginning was made in Pennsylvania; but both were discontinued by the revolution.

In Connecticut, sewing silk has been manufactured more than seventy years. The product of the town of Mansfield alone, the present season, is estimated at eighty-five thousand dollars.

About thirty years ago, this article was manufactured, to some extent, in Amherst in this county; and several beautiful webs were woven; and worn, in gowns and handkerchiefs, by the females, whose ingenuity and skill fabricated them. But the business was afterwards discontinued.

The culture of the mulberry, has made some progress, in Delaware, Ohio, and, I believe, some other of the States of the Union. And a laudable spirit, characteristic of the people, is diffusing itself over the territory of this society. There are within its limits, about twenty mulberry orchards, nurseries, containing plants, sufficient to set over hundreds of acres; and in one place,* sewing silk, and other light fabrics are manufactured, The quantity of silk stuffs, manufactured on the Eastern continent, is immense. Though once an article of luxury, and exchanged, in equal weight, for gold, and afterwards, by some governments, forbidden to be used, considered as extravagance; yet it is now, an article much in use, in all countries; and will, in all probability, in our time, become as common for wearing apparel, as the fabrics, made of flax or cotton.

Great Britain imports, annually, chiefly from Bengal, Italy, China, and Turkey, raw silk, to supply her manufactories, to the amount of more than seven millions of dollars; France imports from the same places, chiefly, more than twenty millions; besides large quantities raised in her own territory; and she exports, "besides a much greater saving from the quantity used at home," of this article manufactured, the incredible amount of "five hundred millions of dollars."

The records of the treasury show, that the United States imported, in five years, from 1821 to 1825 inclusive, more than thirty-five millions of dollars, in manufactured silks. Of which eight millions only were exported; leaving to be used, and paid for, in the United States, twenty-seven millions; or about four and a half millions annually. This has since increased—and the probable consumption of silk stuffs, within the United States, at this time, is between seven and ten millions, annually. And this amount increasing in a ratio, greater than that of the population of the country. This large sum is to be paid for; and it will be seen, that our exports, from New England, fall short of doing it.

These facts show the importance of this culture; both to agriculturists, and to the nation. We pay for this article, manufactured abroad, an annual tax, of between seven and ten millions; which its culture would save—and, in a few years, enable us to export, of the same material, as much more. Thus saving that sum, "twice told." The fact also, that the demand, abroad, for our bread-stuffs, is constantly diminishing; and our exports of that article, annually, decreasing, adds importance to this culture.

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* Belchertown.

Its value may be learned from the estimation, in which other nations have held it. The art has been considered as mysterious; and artists, skilled in it, prohibited from leaving their country, under severe, and I believe, capital punishments. If a solitary artist eluded this prohibition, he has been courted in other countries, and there rewarded with a princely munificence. As late as 1823, a silk manufacturer of Lyons, in France, at the solicitation of individual manufacturers in England, went there to introduce certain parts of his art; and impart some portions of his skill. He returned, in one year, with a bonus of twenty thousand pounds sterling—eighty thousand dollars. On his return to France, he was prosecuted, for communicating his skill—but had the good fortune to elude the penalty.

In England, France, Italy, and China, this manufacture could not be valued. It is, equally, above price, here. Our climate, and our soil, are equally adapted to it; and will raise the raw material in greater abundance; and of a finer, richer, and superior quality.

It is proved by actual experiment; that the mulberry will flourish equally well, in all parts of the United States; unless it be the extreme North and South; that the silk-worm, in all its mysterious forms, grows and works, as well here, as in the East, and even better; that the whole process from the egg, to the winding and finishing of the cocoon, is accomplished in thirty-one days; whereas the same process, in the East, occupies from forty-five to forty-seven days: that the cocoons produced here, are larger, and of a more uniform size; evincing clearly the uniform health of the worms, that wind them; and that the silk extracted from them, is of a finer, stronger, and more beautiful texture.

It deserves the notice of husbandmen, also, that the whole business may be done in sixty days; principally, in the months of May and June; when labor on a farm is not so much needed; and by women and children. The fabric surely not of less value, because wrought by fairer hands.

Experience has not yet taught this country, the net produce of one acre. It has been estimated from two to twelve hundred dollars. If the less of these extremes be considered as the more correct sum; even in this case, a profit is yielded, far greater than that arising from the culture of any other article known in the United States. It offers immense wealth to New England industry; and seems one of the choicest gifts of Providence to this highly favored land.

That an insect so minute; emerging from an egg, of the size of a pin's head; should wind, from itself, a thread of so great length; of the finest, richest, and most delicate fabric; in one month, arriving at maturity, and finishing its work; encircling itself with the web so nicely wound, as with its shroud; is one of the mysteries of nature; presenting, as it does, the riches of a world, in the compass of a nutshell.

(To be continued.)

(From the New England Farmer.)

WINTER WHEAT.

Mr. Fessenden,—Having seen your notice of the reception of a quantity of the Black Sea White Flint wheat, and feeling desirous of promoting the cultivation of this very valuable grain, I can state for the information and encouragement of those farmers who may have doubts of its success in New England, that it has been raised here every season since 1827, the yield varying from 20 to 28 bushels per acre. It has been twice sown on an old plain (the soil of which is a fine gravel) which has been under cultivation more than 100 years.—The soil of the field in which I raised it last season, is a light loam.—From what I have seen of this wheat, I am satisfied that it is a more certain crop than rye.—It has been raised by several of my neighbors, and I have never known an instance of its blasting. I have found it necessary to manure more highly where I sow wheat than where I raise rye.

PLANTING PEACH STONES, &c.

A correspondent in the last New England Farmer, wishes to be informed of the best method of planting the peach and other fruit stones, and as we are all prone to think our own mode best, I take the liberty of stating mine. I take a box in the fall, throw in a little earth, and place such stones as I wish to plant on it—then fill the box with earth, and place it in an exposed situation and let it remain until I plant my garden, when I empty my box and collect the stones and crack them; take out the *meats* and plant them in rows 2 or 3 inches deep. If your correspondent will try this method, I believe he will find it a good one, if not the best. Yours, &c. E. A. E.

Killingworth, Con. Nov. 29, 1831.

HORTICULTURE.

(From the Library of Useful Knowledge.)

PLANTING.

(Continued from page 307.)

The third and last mode of rearing forest trees proposed to be discussed at the head of this chapter, is that of selecting the superior shoots of coppice stools, and training them to full-grown timber trees. The oak, on account of the value of its bark, is more frequently reared in this way than the elm,* ash, and chestnut. The timber of coppice trees is in general faulty, and of inferior quality to that reared from seeds. Where care, however, is taken in the selection of the shoots from healthy and not over-aged coppice stools, timber of the best quality may be obtained from them.

The produce of coppice stools consists of materials for fence wood, fuel, besoms, &c. Poles and bark are the most valuable of this produce, where the practice is to leave no standards, or saplings for timber. It is, however, perfectly clear, that when a wood or coppice offers to the purchaser produce of various sizes convertible to various uses, along with full-grown timber for navy purposes, the sale is more readily effected, and generally on better terms, than when the produce consists of smaller wood only. In making choice of the shoots of coppice stools to be trained for timber trees, great care should be had to select none but such as are straight and vigorous, and which originate as near to the roots of the stool as possible. The neglect of this latter circumstance is the chief cause of the unsoundness of coppice-reared timber, particularly at the root or *butt* end of the bole. The *parent wood* of coppice stools is most frequently suffered to rise too high from the roots, consequently the shoots emitted from it never grow with so much vigour, or attain to so great a size in a given space of time, as when the stool is kept within an inch or two of the surface of the ground. When the parent stool is a foot or more in height from the root, it becomes divided into pointed rugged parts, and if a tiller or shoot, left for a tree, is situated near to one or other of these, the *stub* is in time encompassed by the bark of the young tree wholly or partially, which causes blemish and unsoundness in the timber, as well as obstruction to its prosperous growth. The stumps of coppice stools should, therefore, be cut near to the surface of the ground, and the face of the *stubs* as level and free from fractures as can be. The kinds of trees most profitable for coppice produce are those which possess the reproductive power in the highest degree; these were enumerated in a preceding page. It may be unnecessary here to observe that the non-reproductive trees, such as all the pine and fir tribes, are unfit for the purposes of coppice. The shoot, or tiller, being selected with due attention to these essential points, all other shoots belonging to the parent stool should be cut away close to the root. The young tree should then receive the same treatment as other trees reared by seed or transplanting. Although, under any circumstances, it cannot be recommended to convert a coppice wood into a timber grove, nevertheless, should the circumstance of local demand for timber trees be considerable, it is a highly profitable practice to allow a certain number of the most select oak tillers to remain for timber. Should the number finally left to become timber trees not exceed thirty on the space of an acre, the coppice produce will not receive any injury to be put in competition with the value of the trees retained. Were one hundred select tillers left on the cutting or fall of a coppice, and were the periodical falls made at eighteen years intervals of time, on the second cutting these tillers would be thirty-six years old, and worth from 10*s.* to 12*s.* each. At this period of growth twenty-five of the number should be taken away, leaving an average distance between those that remain of about twenty-four feet. At the next fall the trees will have attained to fifty-six years' growth, and will afford seventeen trees to be thinned out, of the value of 22*s.* each. At seventy-two years' growth the value will be increased to 38*s.* each tree, and allowing fifteen trees to be thinned out. At the fourth, or last thinning, the trees will be ninety years of growth, and worth at least 50*s.* each, leaving thirty timber trees, of which a part will be fit for ship-building, and exceed in value the fee-simple of the land. Land requiring a period of eighteen years to produce coppice-wood fit for cutting or a fall, cannot be worth more yearly than 10*s.* per acre in husbandry; consequently the rent of the land and cost of culture of the coppice is covered by these thinnings of the timber trees, leaving periodically the proper coppice produce, and at the termination of one hundred years the valuable trees above mentioned as clear profit.

The age at which coppices should be cut down varies according to the soil and their quickness of growth. Nine years may be considered the shortest period, and thirty years the longest, as oak-bark, which constitutes a valuable part of the produce, does not improve in quality after that age. Eighteen years' growth is about an average period for coppice-wood, and the average returns from bark and wood 21*l.* an acre.*

The comparative merits of the three different modes of rearing forest trees, proposed to be considered at the head of this chapter, will have appeared, from the facts brought forward, to be greatly in favour of transplanting young trees of proper sizes and age, from the nursery beds to their timber sites, whether in regard to economy in the first and subsequent outlay of capital, in making and rearing the plantation, or in respect to the quantity and quality of timber produced on a given space of land, and in a given space of time. The rearing of oak timber from seed on the spots where the trees are to remain for timber is, however, an exception to the above conclusion under the following restrictions; namely, that the acorns of the best variety of oak (*Quercus robur vel longipedunculata*) can be obtained of good quality, at a reasonable cost, in sufficient quantities; that the land to be sown is in a perfectly clean state of culture, in *good heart* on the surface, and free from stagnant moisture; that labour is cheap; and that ample and complete protection from the attacks of vermin can be ensured to the acorns, and to the seedling plants till they equal in size three years' old nursery plants. When all these circumstances can be combined, then the mode of rearing the oak on its timber site from seed should be adopted, but not otherwise, or disappointment will be certain to follow.

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* *A great part of the elms (ulmus campestris) reared in Devonshire are from layers, and frequently defective at the most valuable part.—Vide Vancouver's Survey of Devon.*

One or two fertile tracts in Devon, where the soil is of the nature termed red sand-stone, is more favourable to the growth of the elm than to any other tree.—*Mr. Kingston.*

* There are instances of coppices affording returns of 50*l.* sterling profit per acre.

Simple plantations consist of one or two species of trees only; *mixed plantations* of many different species. The latter, on suitable soils, are the most profitable; they afford an earlier, more permanent, and a larger return for capital than simple plantations. The judicious arrangement of the different forest trees, not only promotes the greatest returns of profit from the plantations, but likewise effects the highest embellishment to the estate and surrounding country.[*].

Shelter in winter and *shade* in summer are also important points. Evergreen trees, and such deciduous ones as retain their leaves to a later period of the year (the hornbeam, beech, and some varieties of the oak) afford much greater shelter in winter and in early spring, when it is most wanted, than those which lose their leaves early in autumn, and should, therefore, be planted wherever shelter is most desired. Shade is best afforded by trees which, rising with naked stems to a certain height, afterwards send out an extended series of branches, as the oak, beech, chestnut, and elm, which can be readily trained to that state by pruning, and their spreading branches and umbrageous foliage are highly superior for this intention than those of the ash, sycamore, plane, &c.

Although mixed planting, as just now observed, is the most profitable, and, under skilful massing and grouping, the most embellishing to the landscape, yet there are certain circumstances connected with the growth of the various species of forest-trees, which, when they occur, effectually control the choice of the planter in his modes of arrangement: these are, first, the peculiar nature of the soil to be planted; secondly, the climate, or the exposure and elevation of the site of the plantation. In planting, soils may be divided into *simple* and *mixed*. The latter allows of the fullest scope to mixed planting. *Simple* soils are those which contain the smallest number of ingredients in their composition, or which consist chiefly of one substance; as sandy soils, containing from nine-tenths of sand (the maximum at which the successful culture of the white field-turnip is supposed to be limited) to one-twentieth, the supposed point of absolute sterility for even common herbage, are properly termed simple sandy soils, and on which the pine, fir, larch, and perhaps the birch, can only be planted. Soils consisting of from seven-eighths to a larger proportion of chalk will rear the beech chiefly; and when the proportion of one-half of vegetable matter to one-half of sand and loam meet in a soil, it is properly simple vegetable earth, and comes under the denomination of peat, of which there are several kinds, but which will be more particularly mentioned under the head of soils. On this last-mentioned soil the planter is chiefly confined to the abele, poplar, and alder: the willow and birch only partially succeed, or when the vegetable matter is in a less proportion to the other ingredients above stated.

The elevation of the site of the intended plantation above the level of the sea, where that is considerable, influences the local climate so much as often to confine the choice of the planter to one or two species of trees only, even though the soil should be otherwise favourable for mixed planting.

It is calculated that an elevation of six hundred feet diminishes the temperature of a site equal to that of one degree of north latitude; the degree of dryness or humidity of the atmosphere, and the force of the winds seem also to increase in proportion to the elevation of the land. Accordingly we find that different species of trees occupy different regions and degrees of elevation on the mountains of the torrid, temperate, and frigid zones.

According to Humboldt, the trees which grow in the highest elevation are the pine and the birch, (these also it may be observed will flourish in the lowest situations, the birch in particular will grow in soils periodically overflowed or covered with water for two or three months in a year.) The highest altitude of the growth of the pine is stated to be from twelve thousand to fifteen thousand feet above the level of the sea, in latitude 20°; and the limits of the growth of the oak appears to be confined to ten thousand three hundred. The last species of trees found nearest to the limits of perpetual snow on Mount Caucasus, in latitude 42½°, and on the Pyrenees, are the common birch (*Betula alba*,) and the hooked pine (*Pinus uncinata*,) and the red spruce fir (*Pinus rubra*.) On the Alps, latitude from 45° to 46°, the common spruce appears limited to an elevation of about five thousand nine hundred feet. In Lapland the birch is found at the altitude of one thousand six hundred feet in latitude 67° and 70°.

The influence of different altitudes on the distribution and growth of forest trees, is evident even in the inferior elevations of the forests of Britain. The pine, fir, and birch occupy the highest points;[*] next the sycamore and mountain elm; lastly, the oak, beech, poplar, ash, and chestnut. When the ground to be planted is, therefore, so high above the level of the sea, as to influence materially the nature of the climate, the forest trees to be planted should be selected according to the above principles. In practice this may be termed *region planting*. By imitating the natural process in this respect, not only the most profitable returns which the site and soil are capable of producing will be secured, but also the most ornamental effects produced on the landscape, and the useful ones of judicious shelter obtained. It generally happens in extensive planting that the soil varies in different parts of the site in its properties and fitness to rear one species of tree better than another. When these different soils are, therefore, planted with different trees best adapted to each, masses of diversified outline will adorn the landscape, having all the effect of a tasteful design, and the trees will be individually of the most healthy growth, a point of the last importance in ornamental effect.

Experience proves that, for elevated situations, the Scotch fir, *Pinus sylvestris*, the Norway spruce, *Pinus abies*, the larch *Pinus larix*, the hooked pine, *Pinus uncinatus*, the birch, *Betula alba*, the sycamore, *Acer pseudo-platanus*, and the mountain ash, *Pyrus aucuparia*, are the most profitable: these, with the silver fir, *Pinus picea*, black Italian poplar, *Populus nigra*, the alder, *Alnus glutinosa*, and the Bedford Willow, *Salix Russelliana*, according to the soil, are also the best adapted to plant as nurses for rearing the more valuable timber trees.

For low, damp, and boggy soils, the alder, ash, birch, abele-tree, and the willow, are the best.

To resist the effects of the sea-blasts, the sycamore, pinaster, yew, and laburnum have all been found superior to most kinds of trees. The live oak is a very tender tree, and will not exist in England. The habits of the live oak (*Quercus virens*) offer a prospect of this tree being serviceable for the above important purpose. It is a native of South Carolina, and there it is seldom found above twelve miles from the sea-coast. It thrives best when growing on isolated spots or little islands entirely surrounded by salt water. On the estate of Middleburg, situated on the Cooper river, twenty-four miles from Charlton, South Carolina, belonging to J. Lucas, Esq. of New Cross, Surrey, live oak trees averaging twenty-five feet in height, and nine inches in diameter, were selected from the woods by that gentleman and planted in the form of an avenue to his residence. The trees were taken up with as many of the fibrous roots as possible. The tops were lightened by partially reducing the size and number of the branches. Every tree succeeded well, and in the space of two or three years from the time of transplanting they were not to be distinguished from those in the neighbourhood which had grown unmolested. These facts shew that this tree is of hardy vivacious habits, and being also an ever-green, warrants a fair trial of its merits on the coasts of England.

Transplanting trees of large growth for immediate effect properly belongs to another division of the subject, ornamental planting. It may not be unnecessary, however, to state shortly the principles of the practice as lately brought forward by Sir H. Stewart, in his *Planter's Guide*. These are to take up the tree, with all its roots, fibres, and rootlets, and also the green or external system of branches and buds entire and unbroken, then to transplant these roots, rootlets, and external system of the tree in the same perfect state. The soil into which such trees are transplanted should be of a superior quality to that from whence they were taken, or at least that portion of it applied immediately to the rootlets should have an addition of very rotten manure. A point of great importance to success is the selection of the subjects. 1st. The tree should have a superior thickness and induration of the bark compared to that of trees which have grown up in a crowded state. 2d. Stoutness and superior girt of stem. 3d. Numerousness of roots, fibres, and rootlets. And, 4th, extent, balance, and closeness of branches. Where a tree, otherwise desirable, possesses not these protecting properties, it should be provided with them previous to transplanting by uncovering the roots partially, so as not to injure the stability of the tree during the process. To these exposed roots is applied a compost of fine earth, into which they shoot, and produce in two or three years numerous rootlets fit for transplanting. The overgrown branches are reduced so as to balance the top on every side, if it require it. To assist the bark, such trees as intercept the air and solar rays are removed. These effects are also produced to the roots by cutting a trench at a proper distance from the stem round the roots, and filling up the trench with good soil; in two or three years, the roots will be increased in numerous ramifications as in the former mode.

(To be continued.)

GINSENG.

Ginseng is dug plentifully in Western Virginia, dealers giving 25 cents per pound for the dried roots, by which the digger can get one and a half to two dollars per day, three pounds of green making one of dry. One root was dug lately, three inches round and eleven long, weighing eight ounces.—*W. Tiller*.

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[*] Planting the same sort of trees in masses was originally practised at Blair Adam, e. g. Half an acre of oaks, half an acre of beeches, half an acre of elms, half an acre of Spanish chestnuts, &c. This was altered for a mixture of different forest-trees, but Lord Chief Commissioner Adam has resorted recently to the original practice, especially on the sides of hills. His reason for this is, that mixing trees of different sorts (their growths being unequal) leads in thinning to sparing the more forward tree, though the tree of less value: whereas, uniting the same species of tree in masses, insured their growing pretty nearly in an equal degree, so that the choice in thinning secured the preservation of the best growing tree; and with regard to the effect of embellishment, the large masses of different colours, especially on the slope of a hill, appears to have more effect in point of grandeur than intermixture, the latter being more adapted to pleasure-grounds and the woodlands near a residence.

[*] *The Mountain ash occupies some of the most exposed of the Dartmoor Fens.—Mr. Kingston.*

RURAL ECONOMY.

ON BOTS IN HORSES.

Mr. Smith: *Cambridge, Md. Dec.* 4, 1831.

I this moment received and perused the last No. of your interesting paper; and being a great admirer of a fine horse, my attention was agreeably drawn to a communication from Dr. Harden, of Georgia, entitled "New theory of Bots in horses;" and peculiarly so, from having first read your editorial eulogy upon it: in which you give your assent to the theory, and invite a "thorough scrutiny of it."

It is true that both the communication, and the commendation are drawn with ability; and therefore, the better calculated to make erroneous impressions, if error be in them.

It is not my intention to attempt a "thorough scrutiny" of this theory, as I profess to be unacquainted with the diseases of horses; but simply, and upon *general* and *known* principles, to protest against the probable truth of it; and to express my surprise at the conclusion, at which you and the Dr. have arrived, with so much apparent confidence, from a course of reasoning in analogy; which species of argument, so far as it may have force, most flatly contradicts, in my humble opinion, the hypothesis it was designed to sustain.

In the editorial notice are these words: "To our minds, Dr. Harden's arguments are *conclusive*; for who ever saw animals, or insects preying upon living flesh?" here then is a "postulate" which, if granted, closes the argument and the living stomach against the poor bot, who is, at one dash, concluded in his appetencies, with which, all analogy should really teach us, nature had fully endowed him from the first creation of his family.

But in opposition to this confident assumption "that insects will not prey upon *living* flesh," which appears to have settled your opinion in favor of the Dr's theory. He, the Dr., assumes that insects will not prey upon *dead* flesh: his words are "lice leave the *dead*; ticks loose their hold on *dead* cattle as soon as they die; and fleas will not remain on *dead* dogs, or *dead* hogs."

The enquiry then, becomes truly embarrassing to my mind, how you, and the Dr. could so confidently have arrived at the same conclusion, from premises so perfectly opposite in their character.

But, yet the Dr. admits "that the bot, knowing the animal is dead, eats a *last* meal, from choice;" this would imply that they had indulged their appetites in a similar manner, at least once, before the horse had died: and yet, from the character of the Dr's general assumption "that insects do not prey upon dead flesh, but upon living flesh, as per examples quoted by him, it would seem to be inevitably inferred, that, contrary to his theory, the *living* and not the *dead* stomach or intestines of the horse, were the natural food for the insect in question; and by what process you can possibly have brought yourself to adopt the theory of the Dr., and so emphatically to pronounce his "arguments *conclusive;*" when you so widely differ in the *pivot facts* on which he has founded his theory, I cannot entertain the most indistinct idea.

Now to the facts in point as they unquestionably exist, and are presented daily to the observation of the naturalist, as well as to all who may desire to know them.

The most casual observer in the department of natural science, comprehended in "zoology," must have have learned this truth, that nature has impressed upon each respective family a considerable similitude of appetencies and habits, as well in regard to propagating as sustaining life; though it may be more rigorously unvarying in the larger class of existence.

It was obviously a knowledge of the truth of this proposition in general, that led the Dr. to construct his aforesaid argument in analogy; and he started correctly in his position, that insects, generally prefer living, to dead flesh; and it is most especially true in regard to the family now in question, the "œstrus" or "gad fly:" how then he should infer, by induction from cases in *analogy*, that this insect did not prey upon the living stomach or intestines of the horse, although he admits that upon the dead it sometimes did feed, I am at a loss to conjecture.

The "bot" is known to be the larva of a species of the "œstrus" or "gad fly," this family is characterized in its varieties, and species by an adjunct bespeaking its prey, as the "œstrus equi," which preys upon the horse: "œstrus bovis," which preys upon the ox: the "œstrus ovis" and many others—and every branch of this family, whose habits are known, undeniably prey upon the living flesh of the animal: that, for instance, the "œstrus bovis," in its *larva state* preys upon the living flesh of the ox, the merest sceptic may satisfy himself, by cutting it out of the sinus, it had produced, by feeding upon the living flesh of the animal; to which point he may be referred, by the knotty elevation, marking the presence of the insect.

The œstrus ovis deposits its eggs in the nostrils of the sheep: when hatched into larva, they ascend for food, and gnaw into the frontal sinus, frequently and finally destroy the animal; it is truly astonishing, that the animal should so long preserve life, after this invasion, I have often seen fat sheep slaughtered, and disclosing this curious fact; no doubt, when multiplied, they occasion death.

Innumerable instances could be adduced to prove, that the larva of the œstrus family, prey upon the living flesh, of their respective subjects; though as the Dr. remarks, they may eat a *last* meal, from the horse when dead.

In what respect, then, has the Dr's argument been so "*conclusive?*"—In my humble opinion, the whole course of reasoning in analogy, flatly contradicts his theory; and undeniably establishes, "that the bot is not of sanitary use, but preys upon the living stomach and intestines of the horse," and often, finally, occasions his death from the irritation produced by numbers.

The Dr. throws in for a "*quantum meruit,*" the suggestion, "that these insects cannot be presumed to remain in the bowels, without injury, and suddenly, to change their appetities, and commence eating his bowels"—to this it may be replied, that, as with the ox, and sheep which are known to sustain life, under these ravages, for a long time, yet, when accumulated, and extended, the result is fatal; so it may be, and probably is, with the horse: it is equally inexplicable that the sheep should support, without apparent suffering, a few of these animals, in the interior of the head, and yet, when multiplied, the animal is destroyed.

And further, it may be replied, that it is alone the *doctor's theory* that makes the *paradox* of the sudden change of appetite. *He* is the first to preach such doctrine—all others have believed it to be their *natural* and *usual* habit of indulgence, and their possession of the *apparatus* from *nature*, to enable them thus to indulge, which the doctor admits (for he says they do it *once*,) creates an irresistible presumption that "nature" designed for them *that appetite* and *that food.*

The doctor says, "that so soon as the animal dies, the bots endeavour to make their escape, by "*eating* a passage out;" whereas, the doctor says of the tick, and other insects adduced by him in "analogy," that so soon as the animal dies the insect *ceases* to eat it.

As to the idea of their eating, simply to make their *escape,* it is contrary to the wise ordinances of nature that she should have impressed so fallacious an impulse on this little insect, which has neither *legs* nor *wings*, at that stage of its existence, for locomotion; and, after its labour was performed, to *escape*, it would, in *all cases*, remain as much *incarcerated* as before. Naturalists know that "œstri" have *one* more stage than insects usually have to become "flies;" between the "larva," of very short duration, and the chrysalis, they assume and retain, while in the animal, an intermediate stage, *without legs* or *wings.*

Moreover, as if to leave *no doubt* of his error, the doctor says, (naming a case of his own horse which *died suddenly;*) "I had him opened *immediately*, and found a great number of bots, and the part where they were most abundant, very much perforated; some appeared to have just begun to eat, and some had gone about *half through.*" A singular instance of *immediate*, practical skill and rapid execution, without previous habit, learning, or effort; and also, of organic structure, by the wisdom of providence, without use; for such must be that of the organs of mastication of this insect, to be but once, during its life, applied to the purpose, and that an accident; agreeably to the doctor's theory and facts.

Upon the *conclusiveness* of this, the doctor's own testimony, I will make no further comment; except, that it evinces a *candor*, *laudable* and *unusual.*

But you adopt the theory of Dr. Harden, and think he has "reduced his illustrations to *perfect demonstration:*" and you agree with him, "that bots are perfectly harmless; if *not of sanatary* use to the horse."

Now independently of every other consideration, the single fact, known to every one, of the instinctive horror at their approach, manifested by the "horse," "ox," and all other animals obnoxious to their attack, is sufficient to set this point at rest. It has never been denied, and may be assumed as undeniable, that an *unerring* instinct has been impressed on every animal existence for its preservation.—Who has not witnessed the dullest horse to plunge, and be frantic at the approach of the "gad fly" in question? The fly does not inflict a sting on the animal; it simply deposits its egg on a part of the hair of its body conveniently to be reached, and nipped off by him; and "instar omnibus," the animal is furnished with an instinctive warning, to avert the danger.

Who has not seen the cattle in the field run wild and terrified, at the approach of the species of the same genus to which *they* are liable? "*et sic passim.*"

Indeed it is a general truth, I believe, that every class in the great chain of animated nature, have their *ichneumons* and their *parasites* of *destruction*, and their instinctive impressions to be guarded against them, and to suppose the horse to be exempt, with the clear evidences we possess in regard to the pernicious operations of the insect in question, is to shut our eyes against *palpable truth*, and to adopt a *palpable error.*

In what manner we may reasonably hope to counteract the evil, I suggest nothing, because I am not informed.

Your kindness will excuse me for this long communication, which I had not designed should occupy the space of a dozen lines, nor indeed, any space; but from your public challenge, and your apparently serious adoption of an undoubtedly erroneous theory.

With a deep interest in your paper, and much personal respect, I am, &c. "Agricultor."

PRESERVED APPLES.

Mr. Alex. Walsh, of Lansingburgh, has presented us some apples the growth of the year 1830—the russet grown by Mr. W., and preserved in bran and sand. Those in the latter were in the finest state. Also a moderate size red and white apple, raised by a farmer east of Lansingburgh, and preserved in sand by Mr. F. Fordham, of the same place. This was as fair and in as sound a condition as though of the growth of this season.—*N. Y. Farmer.*

Mr. Smith will be pleased to examine this manuscript, and if found possessed of sufficient interest, have it inserted in the American Farmer. P. W.

Sketches of the Horse, Breeding, Sampson and his Stock.

The introduction of the Oriental horse into Europe, is traced to the Moors when they overran Spain in 710, and the Saracens that penetrated France, even to the walls of Poictiers in 732, and were totally routed by Charles Martel, which necessarily left the French in possession of a number of fine horses. The "Limosin race" in the department of Upper Vienne, are said to exhibit evident traces of their noble origin; the elevation of the country and the dryness of the pasture, are peculiarly favourable to them. In the year 800 Harounal Raschid sent magnificent presents to Charlemagne, and among them were "some horses." The Crusades, established for a considerable time a communication with the east, and a supply was probably continued by this means. (Vide English Sporting Magazine, for 1819.)

According to Brookes' Natural History "horses were not originally found in America; they were carried thither by the Spaniards at the time of their first conquest, and afterwards by other nations, where they have multiplied greatly; in so much that in some places there are whole droves of them running wild, and very hard to be caught." The genus equus or horse, embraces all the different species from the large, rough, coarsed haired Flanders horse, to the pure Arabian which "derived its origin from king Solomon's stud." The hypothesis of Buffon and other writers that "the whole horse genus derived its origin from a single pair, and the changes of climate alone, in consequence of dispersion throughout the world, wrought those changes in the animal which we now witness, necessarily dividing them into species, and varieties, and that the heavy coarse haired, and ill-formed horse of cold and moist climates proceeded from the same primitive stock, as the light, elegant, and silken haired courser of the desert. All is referred by these writers to the effects of soil and climate and even a great part, fancifully enough, to the aromatic herbs which grow upon the sandy soils of Asia and Africa. There can be no doubt of the fact, that the light horse or courser is originally found upon the warm and dry soils of the south east; but the experience of six or seven centuries, is adverse to the supposition, that the climate of northern Europe, has the power to change the courser of the east, into the indigenous form of the European horse. On the contrary, intercopulations between the southern horse and the rough European native mare, have invariably improved the latter breed, inducing a gradual approximation to the former." (Vide Eng. Sport. Mag. for 1819.) Two opinions have been maintained at different times, relative to the origin of the present "thorough bred" horse of England. First that he is a mixture of all the breeds of the south east, Turks, Barbs, and Arabians, and the other that he has a *remote* cross of the native improved, or Cleveland bay. The reasons offered in support of the latter hypothesis, are that the thorough bred is a larger horse, of greater height and substance than any of the breeds of the south east, which must be ascribable, either to a larger cross or the effect of acclimation, and it would furnish a new fact, either in the history of the animal or vegetable kingdom, that an exotic, should acquire a size, growth, strength, and hardiness, unknown to it in its indigenous clime. Neither the Byerly Turk, the Darley, nor Godolphin Arabian, exceeded 15 hands in height. The remark made in the last extract, that "the intercopulations between the southern horse and the rough European mare have invariably improved the latter breed, inducing a gradual *approximation* to the former," goes very far to support the hypothesis of a *remote* cross with the native improved. That the purest breed of the *Kochlani* Arabian possesses speed is not doubted, but it is remarked by Taplin, that "they cannot retain their rate fur more than one mile," the "stoutness" of the English thorough bred is wanted.

The epoch of the commencement of racing in England, is lost in the chaos of antiquity. The first royal patron of the turf was James I. Some few Oriental stallions were imported during his reign, but it was not till the time of Charles II, that the "royal mares" were imported, anterior, it was only the cross of the Oriental stallion, with the native mare. It is said that the best English blood (Marske the sire of Eclipse in his genealogy ascends to a "royal mare,") is traced to the "royal mare;" however, if none are thorough bred but those in the direct line of descent from them, they possessed a fecundity unknown to their species. Could the "royal mares" have supplied the horse demand, and the exportations of the thorough bred to the continent, and America, since 1685? Undoubtedly not. The history of several of the most distinguished progenitors of the thorough bred, is involved in much obscurity. The Byerly Turk was captured at the raising of the seige of Vienna, in 1683, no certain or satisfactory evidence is extant of his origin; the prevalent opinion has been, that he was either a Turk or Barb. The Darley Arabian was imported in 1703, his "story" is satisfactory and authentic, more so perhaps than that of any Oriental horse that was imported into England; his style and figure realized the description of "the Kochlani or noble breed, whose genealogy has been carefully preserved, since the days of Solomon; they are reserved solely for riding, educated in the same tents with their masters, treated with the tender familiarity of children, and trained in the habits of gentleness and attachment. They are accustomed only to walk and gallop, whenever they feel the touch of the hand or the heel, they dart with the velcity of the wind; if their rider be dismounted in the career, they instantly stop, till he has recovered his seat; or if he falls in battle, they remain by his side and neigh for assistance." (Vide Edinburgh Encylopædia, article Arabia.) The speed of the Darley Arabian's get stands unsurpassed; his son, Flying Childers, (for whom his owner the Duke of Devonshire refused his weight in silver,) proved, that a speed which vied "with the velocity of the wind" was no fable, and his great grandson Eclipse, who "never felt spur or had whip flourished over him," may be regarded as "their own parallels" in the annals of the turf. The Godolphin Arabian was imported into England about the year 1730. Whether he was an Arabian or Barb has frequently been a question, and never settled; his descendants were numerous and valuable, and there has been scarcely "a winner" for the last three fourths of a century, that has not had a cross of his blood. That the United States are indebted to England, and the importation of a few Arabians, (Lindsey's whose get alone has been distinguished among the number) for their racing blood, is a matter of history. Many of the best stallions imported, were at an advanced age. Diomed was twenty-two "the year before he was sold to America, he was covered with an eruption, for which none of the doctors could account," and it has been stated, that he only sold for fifty guineas. Citizen was 17 years old. Others might be mentioned that were "stricken in years," their stock crossed upon the Medley, and the immediate get of English Eclipse, and Highflyer, renders our thorough breds *equal* to the best England can produce; the more of this blood of "olden days," the better. "Brummagem," importations are becoming common, regularly invoiced and "sworn to before the American consul at Liverpool." Some are *impotent*, others "weedy," and the most worthless.

The various hypotheses upon the subject of generation, may amuse, but are little calculated to enlighten. Haller, the celebrated physiologist, says, "how few things are ascertained on this subject, and how difficultly they are ascertained, I have learned by too much experience." Whether the *vis typica* belongs to the mare, or whether the form and qualities of the progeny depend upon the character of the *animalculæ in semine masculino*, can just as well be determined by the observation of the practical breeder, as the learned lucrubrations of the theorist. As a general rule, "like produces like," and hereditary defects of blood, or the deficiency of racing qualities will be transmitted with as much probability, as the taints of certain diseases, in the human species. In breeding for the courser with any prospect of success, there must be a proper adaption of "points" and configuration, in both the sire and dam, and the "stout" must be crossed upon the "speedy." In England, this system was pursued with great success, in crossing the Herod with the Eclipse, the former, was "stout" and the latter "speedy." If what John Lawrence says be true, that "the three-quarter blood horse, cannot *live* along side of the thorough bred two miles," the intelligent breeder may calculate accordingly; he is certainly *interested* in breeding from that strain which possesses the purest lineage, lineally and collaterally. If any "stain" or "blot" exist in the line ancestral, he incurs the risk of "breeding back," the scrub taint may concentrate itself, either in the form or qualities of the offspring, which he has nurtured with a parental care, when his hopes are big with expectation, and upon the hour of trial he finds that his thorough bred nag, can only vie with the well bred hunter in speed, it might tempt him to invoke any thing but a benediction upon the heads of those, who *palm* their thorough bred stallions upon the public, without even the "four royal crosses" which in some latitudes are called "full blooded," though *far* from being thorough bred. The every day trick of fabricating pedigrees and not tracing them *out*, ought to be reprobated and discountenanced. Let us put a supposititious case: Nonpariel was got by Sir Archy, (here follows the pedigree of Sir Archy *in extenso*,) his dam by Diomed, grandam by Medley, the pedigree having reached the Medley tree, seeks *cover* under the luxurious umbrageousness of its branches—it is the underling ivy entwining itself around the oak. After all this parade of spreading out a pedigree, long enough to fill one or two columns of a country newspaper, lo and behold! Nonpariel is only seven-eighths. Instances of this kind might be *pointed* to in the Turf Register. When the insurance exceeds the season price of a stallion more than one half, both the horse and the owner should be viewed with *suspicion*, and when the owner refuses altogether to insure his horse he ought to be "cried down" as *unworthy* of either a place in the stud or public opinion.

Since breeding the courser has ceased to implicate the respectability of the breeder, the dissemination of all the information extant, which has a bearing upon any particular strain, cannot but be interesting. With this view, the history of Sampson and his stock is presented. Sampson was a black horse, bred in 1745; got by Blaze, who was sired by the Devonshire Childers. Such was Blaze's success in getting runners, that the Yorkshire men thought he could get a runner out of any mare. The dam of Sampson was a "three-part bred hunting mare, the lineage of which was unknown." (Vide English Sporting Magazine for 1820, page 149.) "He was of such a remarkable size (see his admeasurement in the Turf Register and Sporting Magazine, vol. 2, page 2,) and growth, that the jockeys laughed at his first appearance on the turf; saying, that Mr. Robinson had entered a *coach* horse." (Ib. 4.)

Sampson got Engineer and Engineer got Mambrino, both good racers. "Mambrino shews to have been a horse of great substance, and of a fine and rather military figure, plainly enough indicating some *cross* of European blood, and as a stallion, more calculated to get hacks, hunters and coach horses, than racers. He, however, got a number of middling racers and some good brood mares, but *no runners of the first or* *second class.* He went in a remarkably good *trotting* form, and we have heard it averred, that he could have trotted fourteen miles in one hour; no common qualification for a racer. He was owned by Lord Grosvenor, who had many capital coach horses from him, and this horse may be said to have been the father of the present highly improved and blood like breed of English coach horses." (Ib. 149.)

Messenger, sired by Mambrino, and "imported into Pennsylvania," noticed in the April number of the American Turf Register and Sporting Magazine, as being "large and well formed, and his stock very valuable as racers and for any other service," that his stock was valuable for the "saddle and draught," as is stated in the 1st vol. of the Turf Register, page 164, is true, but that they were "*very* valuable as racers" wants *proof;* let the "winners" of his *immediate* get be enumerated for the information of breeders, sportsmen and amateurs.

"John Lawrence, in his history of the race horse, quotes from his own knowledge, that at a certain period, Engineer mares were in particular request. Soon afterwards, however, opinion underwent a change. The daughters of Engineer lost their temporary repute. The idea occurred, that all bastard mixture became worse in *every* generation, and in the end quite useless as racers; and breeders henceforward, hastened to exterminate them in favour of the pure blood. For a long time afterwards, the blood of Sampson became unfashionable, and a *cross* of it was held to be a great deterioration of the value of a racing pedigree." (Vide Eng. Sport. Mag. for 1820, p. 4.)

That the Sampson stock should be remarkable for getting "hacks, hunters and coach horses," must be regarded *sui generis* in breeding so long as the eastern purity of his descent is maintained, but when we advert to the fact of Sampson's dam being "a three-part bred *hunting* mare, the lineage of which was unknown," a practical reason presents itself—the "breeding back" upon the "hunting mare," imparted the size, strength, bone and substance, that characterized the Mambrino stock in England, and the Messenger stock in the W. States. In England, Chance Medley breeding is but little practised, the distinct species of the courser, hack, hunter, cart and coach horses, are reared in their utmost purity; hence the language, "a three-part bred hunting mare" refers to a mixture of the native improved or Cleveland bay, and the eastern horse; the "Old English Hunter," is the produce of this connexion. If others have

"Arguments more fit,
Produce them or to these submit."

The English Sporting Magazine in noticing the race between American Eclipse and Henry, remarks, "That unless a transatlantic mile is shorter than an English one, they have got *some* good horses in that country, as in one heat the four miles were run in seven minutes and thirty-nine seconds, being *almost* equal to any thing on record, particularly as the heat before it had been run within a second of the same time." It might also be stated for the information of our "mother country," that by reference to the pages of the American Turf Register and Sporting Magazine, many of our two and three mile races, are "almost equal to any thing on record." The "olden blood" of our thorough breds, descended from the same progenitors as the *best* English stock, and if the breeder rejects all as having "lost cast," which cannot trace its purity back paternally and maternally to our best imported stock, the distinguished era of the American turf, is in the prospective.

An Observer.

Extraordinary Weighing Machine.

Amuel, the mechanician and optician to his Prussian Majesty, has recently invented a weighing machine for grain, which has excited universal admiration at Berlin.—Though it does not exceed four inches in length, it is capable of weighing a hundred and thirty-six pounds at a time.

THE FARMER.

Baltimore, Friday, Dec. 16, 1831.

Bots in Horses.—A much respected correspondent, whose communication appears in another part of the present number, very spiritedly contests the correctness of the theory advanced by Dr. Harden of Georgia, of the harmlessness of bots in horses, which appeared in the 38th number of the Farmer. The few approbatory remarks we made on publishing the article have also brought down upon us a goodly share of our correspondent's criticism, and therefore a few remarks from us may not be considered out of place.

Our correspondent, "*Agricultor,*" is mistaken in the supposition that Dr. Harden and ourselves have arrived at the same conclusion "from premises directly opposite." Our opinion that insects do not prey upon living flesh, is not at all inconsistent with Dr. Harden's theory that "lice leave the dead, ticks loose their hold on dead cattle, as soon as they die, and fleas will not remain on dead dogs or dead hogs." Our theory that insects will not prey on living flesh, does not imply that they will prey on the flesh of dead animals, neither does the Doctor's theory that lice leave the dead, &c. imply that they prey on living flesh. Our theory is, that all insects that inhabit animal bodies, live on the juices and secretions of those bodies—not on the living flesh. The body of the animal is the habitation of the insect, and furnishes food for its support by its secretions. When life ceases in the animal, the secretions also cease; thus the insect is deprived of the necessary supply of aliment; his abode is rendered comfortless by the cessation of the animal heat, and he abandons the dead body—in the words of Dr. Harden, "lice leave the dead," &c. That no insect or animal ever voluntarily preys on living flesh is our firm opinion, after much reflection and investigation. Though we have carefully examined all the cases that have been presented to our observation we never found an instance of it. We have examined cases in military camps where soldiers were covered with vermin, and said to be "eat up with lice." And we have seen these vermin clustered in holes on different parts of the bodies,—like maggots in cheese; and yet convinced ourselves that the lice did not prey on living flesh, nor indeed on flesh at all. They literally live on and in corruption. They do not eat the sound flesh and thus make the sores in which they are found; but in their search after food causes an itching in the skin; this is scratched, the cuticle is broken, and a sore is produced, which is immediately resorted to by the vermin on account of the increased supply of food produced by the increased secretion at that place. This increase of secretion is kept up by the irritation produced by the vermin until inflammation and suppuration supervene, and decomposition gradually ensues—furnishing food for the insects from the decomposed flesh, and gradually enlarging the sore. The same remarks apply to all other insects that inhabit animal bodies externally.

We may be permitted to remark here, that though it be true that every class in the great chain of animated nature has its ichneumons and its parasites, it is not therefore admitted that they are instruments "of destruction"—necessarily so. That is, they do not destroy the being, either animal, or vegetable, by the actual consumption of its organised substance; but when they do cause the destruction or decay of life, it is done incidentally, by the irritation produced by their presence, by their consuming the nutriment intended for the nourishment of the beings, as in the case of parasitic plants, &c. Would it be going too far to say that insects on animals are analogous to animals on the earth, and that as the latter do not actually eat the earth for food, but rather the things that grow on it, neither do insects eat the substance of their animal habitations, but rather the matter secreted by them. It does seem to us that it would be unnatural for an animal or insect to devour its natural habitation as food.

The remark of Agricultor "that nature has impressed upon each respective family a considerable similitude of appetencies and habits," is admitted to be correct; and it is partly from this fact itself that we draw the conclusion that bots do not prey on living flesh as matter for food; for this would imply that their appetencies and habits were subject to sudden and violent changes. That the substance of the intestines is not the natural food of bots must surely be admitted; for if it were, the race of horses must have become extinct long since. If the substance of the intestines be their appropriate food, a single one would be sufficient to kill the horse, and every horse that has one in him would certainly perish, for it would assuredly devour its food. But we cannot admit that this is the natural food of bots. We believe they feed on the substances taken into the stomach as food, or on the juices secreted by the intestines, or both; that they are harmless when few in number, if not salutary, and that they are only formidable and mischievous when numerous, in consequence of the irritation produced by them. That they do not prey on the substance of the intestines during the life of the animal for purposes of food may be inferred also from the fact, that no marks of their depredations are found except the perforations, which are made directly through the walls. If they only attacked the intestines for purposes of food, and if this were their natural food, the walls of the intestines would exhibit excoriated and partially consumed spots, larger or smaller according to the number of bots and the length of time they had occupied the parts. Hence we infer that the living substance of the intestines is not the natural food of bots, and hence that, to qualify them for devouring it as food, would require a violence of change of appetency inconsistent with the laws of nature.

It will be perceived from the above, that we do not admit that the *œstrus* family of insects prey upon the living *flesh* of the animals which they are known to inhabit, and consequently, that it stands us in hand to account for the *sinus* produced by them in the ox, &c. referred to by Agricultor. The modes by which these sinuses are produced, is similar to that given above in the case of vermin on the human body; and to prove this, let one of these sinuses be opened and examined. If the immediate walls of the sinus are composed of sound living flesh, and marks are present of some of this flesh having been eaten, then it will be clearly proved that the insects do eat living flesh; but if they present an entire surface of corruption and decomposed flesh, which Agricultor will not deny that they do, then it must be admitted that the insect does not prey upon living flesh.

The same theory applies to the case of sheep, in whose nostrils the eggs of the *œstrus ovis* are deposited, the larvæ of which ascend into the frontal sinus. We contend that these insects do not "gnaw" the flesh, but live on the secretions, which, in that part, are so abundant; and that the irritation caused by their presence, produces inflammation, and consequent decomposition of the immediate parts, and the ultimate death of the animal.

The fact that the insects possess "the *apparatus* from nature to enable them thus to indulge," is no evidence that that apparatus was given them to be used exclusively in eating living flesh. Because a rat gnaws a hole through the floor to enable it to get to the cheese, or through the walls of its woodden trap to effect its enlargement from prison, must we thence infer that wood is its natural food, and must this inference be made conclusive by the fact, that it possesses the apparatus to enable it to gnaw it? According to such argument, the case of the beaver eating off his tail for the purpose of obtaining freedom from the trap, would prove that the natural food of this animal was its own tail.

We do not conceive that the idea of bots gnawing a passage out of the intestines, when they are rendered uninhabitable by the death of the horse, is at all "contrary to the wise ordinances of nature." On the contrary, it appears to us perfectly consistent with them; for there is no ordinance of nature more universally obeyed, than that which requires of every living thing the exertion of all its faculties for the preservation of life. Although this little insect in this stage of its existence, has neither wings nor legs for locomotion, after it gets out of the intestines, it at least, has as good a chance for life as it would have if it remained, and it certainly obeys the instinct of its nature by making an exertion to escape death, which we conceive inevitable were it to remain in the intestines during the course of decomposition which follows death.

The instinctive horror manifested by horses and cattle at the approach of the "*gad fly*," proves nothing in favor of the argument of Agricultor, that bots do kill horses. It certainly cannot "be assumed as undeniable, that an unerring instinct has been impressed on every animal existence for its preservation of life," if we admit that the very effort induced by this instinct, and that alone, enables the instrument of death to do its work. The instinct that induces the action for the preservation of life, also teaches the most effectual method of effecting the object. It directs the effort to the mode most hopeful—it directs "drowning men to catch at straws;" but it never directs him who would guard against sickness and death to swallow arsenic; nor does it induce the horse to guard against death by bots, by biting off the eggs from the hair of his body and swallowing them.

Our correspondent must permit us to say, that his conclusion, that to adopt the theory of the harmlessness of bots, "is to shut our eyes against *palpable truth*, and to adopt a *palpable error*," is rather discourteous, unintentionally so we have no doubt. Of the correctness of the opposite theory, we have seen no "clear evidence," and, therefore, its truth is not palpable to us, neither is the error of our theory.

In conclusion, we must observe, that we gave no "*public challenge*," to any one to meet us in controversy on this subject, thereby implying, that our minds were finally made up. We *invited* the most thorough scrutiny of the theory, and expressed a wish to arrive at the truth thereby—which, to our minds, is a very different position from that of a public challenger. We beg Agricultor to understand that what we have written above, is to be taken as our mere opinions, and that these opinions are subject at all times to correction, and we hope, therefore, that they will be tolerated by him, especially as reason and the press are left free to combat their errors.

LIME.—A correspondent wishes to be informed what quantity of lime is necessary to be applied to the acre, on stiff clay land, and on sandy soils. We shall be obliged to any of our correspondents for the information.

☞ We regret that an important error occurred in our notice of Madam Parmentier's garden in the 38th number. The number of acres should have been twenty-four instead of fourteen as therein stated. The terms of sale can be ascertained by applying to Madam Parmentier by letter; but we would recommend a personal visit and examination of the establishment, to those disposed to purchase.

Prices Current in New York, Dec. 10.

Beeswax, yellow 19 a 19½. *Cotton*, New Orleans .10 a .11½; Upland, .7 a .10; Alabama, .8 a 11. *Cotton Bagging*, Hemp, yd. 14½ a 17; Flax 13 a 14½; *Flax*, American, 7 a 8.——*Flaxseed*, 7 bush. clean .—— a ——*Flour*, N. York, bbl.—— a 5.75; Canal, 6.25 a 6.62; Balt. Hwd.st. 6.25 a 6.37; Rh'd. city mills —— a 6.25; country, 5.75 a 5.87; Alexand'a, 5.87 a 6.00; Fredericksburg —— a 5.68; Petersg. 5.75 a ——; Rye Flour, 4.75 a ——; Indian Meal, per bbl. 3.50 a ——; per hhd. 16.25 a 16.50; *Grain*, Wheat, North, 1.12 a 1.18; Vir. 1.12 a 1.16; Rye, North, 88 a 90; Corn, Yel. Nor. 70 a —; Barley. 1.34 a 1.37; Oats, Sth. and North, .45 a 56; Peas, white, dry, 7 bu. 5. Beans, 7 bu. 7.00 a 8.00; *Provisions*, Beef, mess 7.50 a 8.00; prime 5.25 a 5.50; cargo —— a ——; Lard .9 a .9½; Pork, mess, bbl. 12.25 a 13.25; prime 10.00 a 11.25.

FOR SALE,

A splendid Horse—of the best blood in Europe or America

SILVER HEELS. Got by the celebrated Oscar—he by the imported Gabriel, who at 5 years old won the King's Plate, carrying the weight of a six year old.

Oscar's dam was Vixen—by *Old Medley.*

Silver Heels' dam was Pandora—a celebrated 4 mile mare out of the dam of Edelin's celebrated Floretta, and by Grey Diomed—he too by Old Medley. One of the best judges in this country writes to the owner of Silver Heels, under date 30th November, 1831:

"You own the best stallion (blooded) in *the world.* There is no horse in England, much less in the United States, that has so many and immediate crosses to the Godolphin Arabian."

And again he says:

"I can shew against the world that Silver Heels is the best or purest blooded animal now living in it, and challenge investigation."

He does not trace to a single animal that was not *celebrated on the turf.*

He was 16 years old last April—is full 15¾ hands high, of splendid figure and in high health and spirits. The owner wishes to sell one half of him. Apply to J S. Skinner, Editor of the American Turf Register and Sporting Magazine, Baltimore.

PROPOSAL TO NURSERIES.

William Prince & Sons, proprietors of the Linnæan Botanic Garden and Nurseries, near New York, being desirous to facilitate the formation of Nurseries in every section of our country, as an object of National benefit—are ready to receive proposals for supplying any amount of Trees and Plants for such object, and will in such cases allow a *liberal discount*, and upon suitable explanation will extend a credit to *fully comport with the convenience of the purchaser.* All who are desirous of entering into such arrangement will please apply per mail, and will receive prompt replies. *Dec.* 9.

BOLIVAR FOR SALE.

The celebrated improved Durham Shorthorn Bull Bolivar, is now offered for sale, one of his present owners being about to give up the breeding of stock. This bull is one of the largest and finest animals in America. If immediate application be made, he will be sold for $300. Apply to the subscriber, office of the American Farmer. GIDEON B. SMITH.

RAPE SEED.

A small quantity of fresh Rape seed just received for sale by the subscriber.

BUFFALOE BERRY TREES.

The subscriber will receive in a few days a few of the new and beautiful fruit trees originally from the Rocky Mountains, mentioned in No. 5, vol. 13, Amr. Farmer, called *Buffaloe berry tree*, or Shepherdia. This is one of the most beautiful of all ornamental trees, bears delicious fruit, and is perfectly hardy—*price* $1 *each.*

BULBOUS FLOWER ROOTS.

The subscriber has for sale a small but elegant assortment of Tulips, early double and single Van Thol, and common kinds; Crown Imperials and Persian Fritillaries; Polyanthus narcissus, yellow and white fragrant; Yellow fragrant and White fragrant; Double and single fragrant Jonquils, &c.

A few of his splendid collection of new Pæonies and Hemerocalises yet on hand. GIDEON B. SMITH.

AGRICULTURAL BOOKS.

A variety of the most approved works, both Foreign and American, on subjects connected with Agriculture, Horticulture, Farriery, &c. kept for sale at this office.

BALTIMORE PRICES CURRENT.

BALTIMORE MARKET.—The close of our harbour by ice has entirely suspended business on the wharves, and flour and grain are of course without foreign demand. The wagon price of Howard street flour has declined to $5; and our quotations embrace the rates paid for the small parcels of wheat brought in by wagons. Our quotations of wood apply to that brought in by the rail-road cars.

TOBACCO.--Seconds, as in quality, 3.00 a 5.00; do. ground leaf, 5.00 a 9.00.—-Crop, common, 3.00 a 5.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 10 00; yellow and red, 8.00 a 14.00; yellow, 14 00 a 16.00.—Fine yellow, 16.00 a 20.00.—Virginia, 4.00 a 5.00.—Rappahannock, 3.00 a 4.00——Kentucky, 3.50 a 8.00. The inspections of the week comprise 264 hhds. Md.; 40 hhds Ohio; and 3 hhds. Virginia—total 307 hhds.

FLOUR—best white wheat family, $6.75 a 7.25; super Howard-st. fresh —— *a* ——; city mills, fresh —— *a* ——; Susq.— *a* —; CORN MEAL bbl. 3 50; GRAIN, Md. red wheat, 90 *a* 1.06; white do.—— *a* ——, Susq. —— *a* —CORN, white, 50 a 52--yellow 50 *a* 52--New Corn 43 *a* 45—RYE, 80 a 81—OATS, 33 *a* 35. BEANS, 75 *a* 80--PEAS, 65 *a* 70--CLOVER-SEED 5.00 *a* 5.50--TIMOTHY, 2.50 *a* ——ORCHARD GRASS 1.50 *a* 2.00--Tall Meadow Oat Grass 2.00 *a* 2.50---Herd's, 75 a 1.00--Lucerne — *a* 37½ lb.—BARLEY,—FLAXSEED 1½ *a* 1 5-8-COTTON, Va. 8 *a* 9-Lou. 9 *a* 12—Alab. 8 *a*. 10—Tenn. .8 *a*. 9; N. Car. 8½ *a* .9½-Upland 8 *a* 10---WHISKEY, hhds. 1st p. 34 *a* —; in bbls. 35½ *a* 36---WOOL, *Washed*, Prime or Saxony Fleece 49 *a* 57; American Full Blood, 47 *a* 55; three quarters do. 41 *a* 47; half do. 35 *a* 41; quarter and common do. 32 *a* 35. *Unwashed*, Prime or Saxony Fleece, 30 *a* 34; American Full Blood, 27 *a* 30; three quarters do. 25 *a* 27; half do. 22 *a* 25; quarter and common, 19 *a* 21——HEMP, Russia, ton, $245 *a* –; Country, dew-rotted, 5½ *a* 7c. lb. water-rotted, 7 *a* 9c.—Feathers, 37 *a* 38; Plaster Paris, per ton, 4.75 *a* —, ground, 1.37½ *a*— bbl. Iron, gray pig for foundries per ton 33.00 *a* ——; high pig for forges, per ton, 28.00 *a* 30.00; bar Sus. per ton, 72.50 a 80.00.—Prime Beef on the hoof, 4.00 *a* 5.00—Oak wood, —— *a* 5.00--Hickory, 6.50 *a* 7.00—Pine —— *a* ——.

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An Address delivered at Northampton, before the Hampshire, Hampden and Franklin Agricultural Society, October 27, 1831. By Samuel F. Dickinson—The Black Sea White Flint or Winter Wheat—The best method of Planting Peach and other fruit trees—On Planting (from the Library of Useful Knowledge) continued; On Rearing Forest Trees—Ginseng found in Western Virginia—On the New Theory of Bots in Horses—Apples preserved in Bran and Sand—Sketches of the Horse, Breeding, Sampson and his stock—Extraordinary Weighing Machine—Editorial, on the New Theory of Bots in Horses—Prices Current of Country Produce in the New York and Baltimore Markets—Advertisements.

EDITED BY GIDEON B. SMITH.

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5. Advertisements connected with any of the subjects of the American Farmer, inserted *once*, (seldom more) at one dollar per square.
6. All letters concerning this paper must be directed to the publisher. They must be free of postage, except communications intended for publication, and letters containing money.

☞ All Postmasters are requested to act as agents for the Farmer; they are authorised to retain $1 for each new subscriber, and 10 per cent. on *all other* collections.

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AGRICULTURE.

ORCHARD GRASS AND CLOVER.

Mr. Smith: *Millwood, Dec.* 9, 1831.

A recent number of the Farmer contains some queries in relation to the best method of securing and cleaning the seed of the orchard grass and clover.

Much attention has been bestowed upon this branch of husbandry in my immediate neighbourhood; the following remarks, derived from several years' observation, aided by the experience of many successful agriculturists may be acceptable to some of your numerous readers. Let me however, premise, that although the plan about to be proposed, is believed to be good with regard to both kinds of seed; yet that any improvement which may be suggested with respect to either, will very cheerfully be submitted to that best of all tests, experiment.

The orchard grass seed first claims our attention. This should be cut with the cradle generally used for securing wheat. The proper period for this operation, is when the heads of the plant begin to assume a brown appearance. It is highly necessary to attend closely to this circumstance; and choose exactly that time at which the seed is matured, but has not begun to fall; as the delay of a day or two at this stage of the crop will endanger the whole. If cut too soon, the germination of the seed will be rendered uncertain; if postponed too long great loss will inevitably ensue by its falling from the heads of the plant. The best mode of ascertaining the maturity of the seed; is to rub the head of the plant when free from moisture. As soon as the seed begins to fall during this process, cut the crop while damp either from a gentle shower, or which is preferable, before the morning dew has evaporated. When cut, bind it in small sheaves, and set up ten or twelve of these in open rows, allowing the air to pass freely through them. After it is entirely cured, and perfectly dried, remove the sheaves gently into a barn or shed, by means of a cart with a sheet put over the bottom. This is a very necessary precaution, as a considerable portion of the seed will now unavoidably fall from the heads. It may at any leisure time be threshed from the stems, passed through a common wheat fan, spread thinly for a few days, to prevent its heating, and be sowed in September or October.

The crop of clover seed may be divided into three classes whilst growing; each requiring a different implement for securing it when ripe. We will begin with a light crop; the stems standing well up. For such a growth provided the ground be free from stumps and stones; the ordinary machine drawn by a steady horse answers very well. The seed should be taken from the machine immediately to a shelter, and laid out not too thickly lest it should become heated. The future course to be pursued with it will be described hereafter.

The second division comprehends that kind of crop which is perhaps least troublesome, and certainly most profitable, being abundant in heads, but not having a very great proportion of stem. For securing this the wheat cradle with a linen apron attached to the scythe through small holes punched near the back, and rising over the two fingers next above it is preferred. With the implement thus prepared, the cradler cuts a swarth through the crop of seed, throwing what he collects at three strokes into a parcel. When through, he returns, cutting back the swarth which was on his left hand as he proceeded with the first; taking care to deposit what he now collects at three strokes of his cradle upon the parcels previously formed, thus having in each pile, as much seed as he can gather at six strokes of the cradle. By this means the necessity of a raker is superseded; and what is still more important the loss of seed from the ripe heads of the clover is avoided. The crop should remain untouched until cured, (say 24 hours,) and then when free from moisture should if possible be put under shelter; if this cannot be done, rick it well, covering the sides and top with long rye straw.

In the third case, where the growth of clover from which seed is to be gotten, is very luxuriant, the common mowing scythe will be found the most efficient instrument. When the swarths have been cut, if they are very thick, throw them open until they are cured, then shelter, or rick the crop, protecting it well from moisture, which should in every case if possible be avoided. The old notion of suffering the clover to remain out in the field exposed to dew and rain, for the purpose of expediting the future process of cleaning the seed, has been with us exploded, as it is accompanied with much unnecessary trouble in turning and drying the parcels after each rain, as well as unavoidable loss of seed by sprouting, shattering, &c.

The next process with the crop on the stems is, in cold weather to tread it with horses newly shod, or (which is better still) to pass it through a wheat machine, reserving the straw or stems for the poorest land which it may be deemed advisable to sow in clover, during that season. The chaff containing the seed, (or those heads of clover previously gathered with a machine,) should now be well trodden in thin beds upon a close barn floor, or passed several times through a wheat machine, until by continued trituration the hull is perfectly separated from the seed.

The wheat fan is then prepared for cleaning the seed from the chaff by removing the screen board entirely, and setting before the fan about two feet distant from it, a board 18 or 20 inches high, so inclined towards the fan, that the seed when passed through the coarse riddle will fall between the board and fan. The heavier chaff containing still a considerable quantity of seed will fall next to the board on the side opposite to the seed; and the lighter chaff will of course be blown farther off. A little practice will soon enable any careful person to separate the different kinds. The heavier part may then be shaken in a cockle sieve, by which means a considerable portion of seed will be disengaged from the chaff which can either be sowed in that state, or trodden again as the judgment of the farmer shall dictate. That portion of the seed deposited nearest the fan should also be passed through the coarse sieve, as it will facilitate the last operation, which is to pour the whole of that which has run through the cockle sieve, into an ordinary wire meal sieve; this last being held at the time about three feet above the front of the fan, a strong hand keeping the fan in active operation. The seed will spread in its descent from the elevation above the fan, and will thus become so completely exposed to the current of air issuing from the front of the fan, that not only all dust and dirt, but all defective seed will be entirely driven off, and the residue left *such* and *such* only as is worth either buying or sowing. The above is the experience of

A Plain Farmer.

CULTIVATION OF INDIAN CORN.

Mr. Smith: *Augusta Co., Va., Dec.* 1831.

Sir,—I conceive it to be the duty of every man, in the community in which he may live, to render as far as he can, assistance to his fellow creature. In accordance with this principle or maxim, I shall submit to your numerous readers, my ideas upon that subject, which seems to engross the attention of so large a share of our population, (namely agriculture,) and if they should prove beneficial, it will be a source of high gratification to me. Before I proceed further, I will merely state what has fallen under my own immediate observation.

The American Farmer was established for the sole purpose of raising agriculture to the highest possible pitch of perfection. The different branches relative to this subject, have been discussed by men of talents, and practical experience, and numbers no doubt have derived great benefit from reading such a work; but there are some who are so tenacious of their own opinions, that they will not be convinced of any fact, even if the truth were to shine as clear as the midday sun. This class of persons are to be found in the ranks of those whose golden days are past, and who are endeavouring to instil their antiquated notions in the minds of those who are to succeed them; or else they choose to travel the old path which their forefathers have trod before them. No man certainly would be so stupid and silly, as to persist in the old routine of raising but one stalk of wheat, whereas, by pursuing another, he might raise half a dozen.

I shall now proceed to submit those ideas which have suggested themselves to my mind in the course of a few year's experience. The first subject which I shall call the attention of farmers to, is the crop of Indian corn. The plan which I propose to ensure a good crop is, to haul out all the manure which has been made in the fall season, and spread it upon your corn ground; then turn in with your plough, and plough it in completely; by this means, no evaporation or exhalation from the manure can escape: let it lie till spring; so soon as the weather will admit, cross plough it, by this means the soil will be effectually cut to pieces;—so soon as this operation is finished, turn in with a good heavy harrow and give it two good harrowings; after this is completed, lay off your ground for planting—so soon as the corn makes its appearance above the ground, give it a harrowing, taking out the fore and middle hind tooth, which prevents the corn sustaining any injury; when this is completed, take a small coulter and run as close to the corn as possible, so as not to endanger it, this will have the effect of loosening the earth and permitting the young and tender roots to extend themselves in quest of nourishment, and at the same time will receive all the rain which may fall, which every one will admit is highly important in the event of a drought. So soon as this operation is performed, I would advise that the tongue plough should follow, and throw the earth to the corn, which should be followed by the hoe, to give it a dressing. When the corn has attained the height of twelve or eighteen inches, give it another ploughing, and any subsequent ploughing should be farther from the corn, for fear of cutting the top roots. Corn should not be pushed too much—where this is the case, the stalks are apt to be small and spindling, and consequently the ear small. I will farther remark, that by applying the manure in the fall season, the manure by spring, will be completely incorporated with the soil, and in the event of a drought the ensuing season, the sun will not have so powerful an effect upon the crop. as when applied in the spring. If the mode which I have suggested should be adopted, we should hear no complaints of cut worms and obnoxious weeds infesting our lands, our crops will be easier made, and with less work. If you should deem these remarks worthy of a place in your journal, you are at liberty so to do, hoping they may prove beneficial to some.

A Farmer.

AN ADDRESS

Delivered at Northampton, before the Hampshire, Hampden and Franklin Agricultural Society, October 27, 1831. By Samuel F. Dickinson.

(Continued from page 315.)

I am now to consider—

II. The character of good Husbandmen; connected with their social, civil, and moral duties.

1. A good husbandman will value his time. Time is the highest gift of God. We are never to waste or misspend it. It is not our own. The man, who commits suicide, is justly pronounced a violator of the divine law; while he, who wastes his time in idleness, is thought guiltless. The cases are, nevertheless, parallel; differing, in degree only. The one goes into the presence of his Maker, uncalled for, to render his account: the other, although more tardy in his

approach, as surely goes to the same retribution! No time, in life, is allotted to inaction. Nature has no blanks. When years render a man incapable of acting; he is, immediately, "gathered to his fathers;" his days having been "numbered and finished." No time is given the husbandman, for sloth or pastime. If the steward, who neglected to improve his talent of silver, was worthy of reproof; of how much severer reproof is he worthy, who neglects to improve his time; a talent infinitely more precious, than those of gold and silver.

2. He will make the best use of time.

1. Because it is for his interest; as well as his duty. Industry is a sure pledge of wealth. It diffuses health, over the body; and vigor, through the mind. Nature has established an unvarying connection between our wants, which are constantly urging us to exertion; and our happiness. He, who rises early, and steadily pursues the business of the day, greets the evening, with no unpleasant thought in his mind; or evil purpose in his heart. He rejoices in the labor of his hands.

2. He will make the best use of his time, because it is short. Deducting childhood; days appropriated to rest, and hours, to sleep: what may be claimed for sickness and the calls of humanity and charity; a small portion only remains for active duty.

3. He will make the best use of time; because, much is to be done, The whole earth is to be subdued, and made habitable and productive; and its whole population, civilized. And this is to be accomplished, principally, by husbandmen. It is their appropriate business. Their right hand, aided by the mighty energies of Nature, every where developing themselves, is destined to subdue the earth; and prepare it for the great events, which are after to follow. Let every one, therefore, gird on his strength; putting forth his first efforts, on his own farm, making Eden his pattern.

"Every valley is to be exalted; and every mountain and hill made low; the desert blossom as the rose; and the solitary place be made glad."

Does any one doubt the accomplishment of these and similar predictions; let "the sure word of prophecy" silence that doubt.

Let late discoveries. in chemistry, and philosophy, of new combinations; of new principles and powers; and their application to scientific and mechanical purposes; let the late improvements in roads and canals; the untold advantages of labor-saving machines; with the uncontrolled energies of steam; silence that doubt.

Let mountains of granite, torn from their foundations; divided and fashioned, at the will of the workman; carried into all parts of the land; forming magnificent dwellings; and stupendous monuments of art; silence that doubt.

If the efforts of thirty years, without impulse, have produced these astonishing effects; who can calculate the mighty results of a coming century? The decree has gone forth. The earth must be renovated; and its population civilized and Christianized also.

The mountains, ranging behind, and the beautiful valley, spreading itself, before us; may become the scenes of these wondrous operations. Mount Holyoke too; now proudly rising above; may be brought down; and its stones, converted into workshops, and villages, and temples, on the level, below.

Does any one doubt, that the whole population of the earth, shall be enlightened, and purified, and Christianized; let the powerful moral causes, now in operation, silence that doubt.

Let the two hundred Missionary stations, the thousand Christian Missionaries, from the United States and Europe, scattered over heathen lands, and the islands of the seas; the fifty thousand hopeful converts from heathenism to vital Christianity; with the five hundred thousand heathen children in Christian schools; all the fruits of a few years; silence that doubt.

Let the three hundred thousand copies of the Bible, issued by the United States; the seven millions and a half, issued by the British and Foreign Bible Society; printed in missionary presses; and in most of the languages on the globe; and all now open, and read, by as many millions of immortals, put that doubt at rest.

Let the eleven millions of tracts, issued in one year; and other uncounted numbers issued in previous years, by the London tract society; the two hundred and seventy millions of tract pages, issued by the American society; all wafted, as by the breath of the Almighty, over all lands, like the leaves of the tree of life, "for the healing of the nations," command that doubt to "be still." The whole earth shall be filled with the knowledge, and glory of God.

Secondly. A good husbandman will make the best use of his property.

As a steward, he will feel this to be his duty.

1. He will not contract debts. This is making a bad use of property. Contracting debt is pledging all to the creditor; a stake too full of hazard. It is also staking personal liberty; at which nature recoils. It is bartering that noble independence of mind, and thought, which ought to animate every cultivator of the soil. Debt is like a canker, which never ceases to waste; and never fails to destroy. The progress from debt to ruin, is as certain as the course of nature. A man in debt, may read his future history, in the fate of others, as certainly, as an astronomer can calculate an eclipse; or, the hour and minute of the rising, or setting of the sun. A bank debt, or mortgage, is as sure foreboding of ruin to the husbandman; as the morning dram, or evening revel. There may be cases, when one may pledge his farm, for part of the consideration of the purchase; but that part should be small; and such cases rare.

2. He will not lay up property for his children.—No error is more common, or more destructive, than this. Nature has ordained, that every generation shall provide for itself. The young animal, of every species, is left of its dam, as soon as capable of protecting itself, or providing for its own wants. The reason of this provision applies, with double force, to our species. We have mind, as well as strength, to aid in our defence and support. Besides, we need the stimulus of providing for ourselves, to invigorate mind and body.

Property inherited, oftener proves a curse, than a blessing. The manna in the wilderness, gathered for the succeeding day, became offensive. In the strong and expressive language of inspiration, "it stank."—A striking representation of property, laid up for children! We have no warrant for doing this. Property is given, for use, as much as bodily strength; and, when hoarded up, is haunted with anxiety and perplexity, as the reward.

If any one doubts the truth of these remarks; let him look round; and count the men of property, and influence, and usefulness, in his neighborhood, and town: who began with the inheritance of their fathers. No arithmetic will be necessary to finish the computation

3. He will use his property in the education of his sons.

The agriculturist sustains an honorable rank, and acts an important part in society. His labor and skill produces all, which every other class consumes. He ought, therefore, to be thoroughly acquainted with the nature of his employment. He should call to his aid the sciences; especially, chemistry and natural philosophy; which are intimately connected with the science of agriculture; in as much as they show the properties of soils, and manures; and their adaptation to the various classes of vegetation.

He ought to be acquainted with the geography, the natural and civil history of his own, and of other countries. And his mind, and thoughts, and character, should be elevated, by a knowledge of general literature.

He should understand the condition and wants of the uncivilized millions, inhabiting the earth; for, he must aid in their emancipation from heathenism.

As a citizen of a great Republic, and as a freeman, he should understand his rights: the foundation on which they rest: and the principles which should govern their exercise. Liberty is yet striving for her dominion on the earth. Her last struggle with despotism and depravity is at hand. Over this united host, this unholy alliance, she will triumph. But this victory is to be achieved by corresponding efforts of her friends. Every proprietor of the soil should be armed for the conflict, with all the panoply, which knowledge and patriotism can supply.

He should regard the character of his rulers. It is true every where, that the character of the people, is identified with the character of their rulers. It is emphatically true in this land of liberty; where public opinion is the supreme law. Great responsibility, therefore, rests on every husbandman, in selecting those who are to rule. His own character will be judged by theirs. Let the language of inspiration and experience, be remembered: "When the wicked bear rule, the people mourn."

4. A good husbandman will also educate well his daughters. I distinguish the education of daughters from that of sons; because, Nature has designed them to occupy places, in family, and in society, altogether dissimilar.

Daughters should be well instructed in the useful sciences; comprising a good English education: including a thorough knowledge of our own language, geography, history, mathematics, and natural philosophy. The female mind, so sensitive, so susceptible of improvement, should not be neglected. This sensibility presents strong claims for its culture. God hath designed nothing in vain.

Daughters should also be thoroughly acquainted with the business and cares of a family. These are among the first objects of woman's creation; they ought to be among the first branches of her education. She was made for a mother. They should learn neatness, economy, industry, and sobriety. These will constitute their ornaments. No vermillion will be necessary to give colour, or expression to the countenance; no artificial supports, to give shape, or torture to the body. Nature will appear in all her loveliness, of proportion and beauty, and modesty, unaffected gentleness of manner will render them amiable in the kitchen and dining-room, and ornaments to the sitting-room and parlor.

How enviable the parents of such a daughter. How lovely the daughter herself. How happy the husband of such a wife. Thrice happy the children of such a mother. They shall rise up and call her blessed: and her memory shall live.

The influence of the female character cannot be estimated. It is decisive of the character of the other sex. If her character be pure, and elevated, and without reproach, such will be the character of the other sex. There is no man, so much a monster, that he would dare to be vicious in the presence of a modest and virtuous woman. Her character is a shield against even the solicitation to vice.

Every thing, domestic or social, depends on the female character. As daughters and sisters, they decide the character of the family. As wives, they emphatically decide the character of their husbands, and their condition also. It has been not unmeaningly said, that the husband must ask his wife, whether he may be respected. He certainly must inquire at her altar, whether he may be prosperous or happy. As mothers, they decide the character of their children. Eternity only can disclose the consequences. Nature has constituted them the early guardians and instructors of their children; and clothed them with sympathies suited to this important trust. Who, that had a pious and faithful mother, can, without emotion, call to mind her early solicitudes, and prayers, and counsels, in his behalf? Such remembrance shall not cease to warm and enrich the heart so long as clothed with mortality. And of this, and of that, it shall be said in Heaven, he had a faithful, a pious mother!

In this age, characterized by so many benevolent efforts; I have wondered that mothers have not associated for the improvement of their daughters in the domestic and social relations and duties. Such an association, though more humble in its pretensions, would not be less useful in its fruits, than the most imposing unions.

Half the wretchedness and misery in families, arising from the temper or want of economy in the wife, has not been told. Not even the bestial habit of drunkenness in the husband produces more disastrous consequences. To this cause also, may be attributed many of the vices of the husband. He will not love home, if his fireside is rendered uncomfortable or unpleasant. And when the love of home is gone, the man is lost. There is no redemption. Better that he had not been!

The appearance of the husband, and the condition of the children, faithfully express the character of the wife. If she be the neat, prudent, modest, and dignified woman, her husband will proclaim it wherever he goes, in his countenance, in his apparel, in his whole demeanour: it is inscribed on every thing about him. The children, also, will be modest and manly; in clean and whole apparel. If she chance to possess the opposite qualities; her husband will be uneasy and fretful, and gloomy, he knows not why: and her children, impudent and ugly; their apparel, unmended and unwashed.

These appearances; and they are not images of fancy; as surely foretel the ruin of a family as does the thunder cloud, the rain; or the rumbling of the mountain, a bursting of a volcano.

How important then, that every husbandman should educate well his daughters: cherishing and maturing all that excellence of mind and temper, and sincerity of heart, which belong to her sex, and pre-eminently fit her for the endearing relations of child, of sister, of wife, and of mother.

How important also, to every young man, that he be blessed with such a connection.

It cannot be too often or too strongly impressed upon the minds of fathers, and of mothers too, that their daughters hold, in their keeping, the destinies of the present; and at least, of the next generation. How desirable too, that their other virtues be clothed with piety. Pious women have ever been highly favored, of Heaven. They were first to listen at the feet of the Saviour; first to weep at his sufferings; last to linger around his cross; first to worship at his sepulchre; to them, first was announced the resurrection. They shall stand nearest his throne.

Thirdly. A good husbandman will promote the best interests of society.

This requires,

1. Temperance; or abstaining from the use of ardent spirits. Much has been written, and done, on this subject; and yet the half has not been revealed. A glance only can be expected in this place. It has been commonly thought that ardent spirits are necessary for laboring men. No doctrine can be more pernicious.

It is proved by actual chemical experiment, that ardent spirits contain no nourishment; but a poison, deleterious, fatal.

Experience is every where unvarying, that more labor can be performed, both in the field and in the shop, without them—and in a better manner, with better health, and longer life.—That, wherever ardent spirits are used, there follow in train, most of the evils which pollute and afflict society: pauperism, mental debasement, moral degradation, a total prostration of every domestic virtue and comfort; crime, premature death—and the loss of the soul! And when the sea shall give up her dead, and disclose the losses sufferings and horrors. on this element, occasioned by ardent spirits, a still more appalling account shall be rendered.

The expense too, is overwhelming. It was computed five years ago, before the temperance reform began, that ardent spirits, with attendant losses and sacrifices, cost the United States, annually, one hundred millions and thirty thousand lives; besides a larger number by their use, predisposed to disease.

But there is a redeeming spirit. More than three thousand societies, on the plan of entire abstinence, are in operation in the United States. Of this number, nineteen are State Societies. These number three hundred thousand members, and are exerting a salutary influence over a vastly greater number. Similar associations are formed in the other quarters of the globe. The desolation begins to be stayed; and where stayed is every where followed by the spirit of God.

2. In promoting the interests of society, the husbandman ought to regard the expenditures of government.

In the language of our Bill of Rights, "government is instituted for the common good, and not for the profit, honour, or private interests of any man, family, or class of men." The emoluments of office ought, therefore, to be ample; yet in proportion to services rendered. If too great, extravagance is the consequence; the public mind also becomes the more disturbed and agitated in the greater struggles for office.

I submit the following facts, relative to the expenses of this commonwealth.

The salary of governor was early fixed, at eleven hundred pounds. It was soon after reduced to eight hundred, and so continued for thirty years: during the administrations of Hancock, S. Adams, Strong, Sullivan, and other patriots: times of great pecuniary embarrassment, and great political excitement. In 1819, it was raised to the former sum, $3,366 66, and so continues. Immediately after this Maine became a State; lessening the duties of the governor and the revenues of the State one third. And it is well known that three dollars now will purchase as much for a family's use, as four in 1819.

The Lieut. governor receives $533 33 for which he renders no service, except bearing the title.

The Attorney and Solicitor General receive, each, a salary of $2,000. One can easily perform the duties of both.

In addition to the salary of two thousand dollars each, to the Secretary and Treasurer; and one thousand and five hundred dollars to the Adjutant General; we pay for clerks and clerk hire in those three offices, annually, more than six thousand dollars: relieving the incumbents more than the treasury. The business may be faithfully done, for half that sum.

We pay annually, about fifty thousand dollars for the support of state paupers. One half that sum would equally well support them, if the responsibility rested on towns.

We pay to the judges of the court of Common Pleas, two thousand and one hundred dollars to the Chief Justice; and one thousand and eight hundred to each of his associates, for spending one third of their time in public duty.

Whether these all are the just reward of services rendered; whether consistent with a just regard to "a wise economy," and republican principles—let the people judge.

Our militia system is also a burthen; from which the people ought to be relieved.

This is a tax principally on labor, and falls heavily on the cultivators of the soil. Laboring men fill the ranks—the rich are rarely found there. The actual expenses of the militia in time and money, exceeds all the school taxes in the state. This is worse than thrown away. Its tendency is to demoralize. Discipline gains nothing, and nothing is gained on the score of defence. The defence of a nation consists in the strength and patriotism of individuals. We need an organization, bringing into the ranks every man capable of bearing arms, with rarely an exemption, and a rigid annual examination of arms, and no more. This is all the laws of the United States require, or the country demands. If any one doubts the efficiency of fire arms and patriotism, without epauletts and feathers, let him look to Bunker hill. If he need more, let him cast his eye across the Atlantic, to Poland.

(To be continued.)

SHEEP IN VERMONT.

It is estimated that there are 766,803 sheep in Vermont. The several counties contain as follows:—Bennington 52,416; Windham 55 542; Rutland 139,996; Windsor 109,787; Addison 112,787; Orange 73,155; Chittenden 55,449; Washington 40,856; Caledonia 43,748; Franklin 41,638; Orleans 23,797; Essex 6,976; Grand Isle 8,656.

LARGE PIG.

Mr. Moses Swift, of Amenia, killed a pig a few days since which was only eight months and five days old, and which weighed when butchered *three hundred and five pounds.*

HORTICULTURE.

PEACHES.

Greatfield, Cayuga Co., New York,
12 *mo.* 6, 1831.

Mr. Smith:

The *peach* is the most delicious fruit of the temperate zones. Of all the *varieties* into which this species has passed, none are so remarkable[*] as the *nectarines*; distinguished by a smooth skin, a firmer pulp, and a peculiar flavor. The *down* of the peach commonly repels the curculio; and it is only on account of this armature that it more generally ripens than the nectarine,—for the latter tree in resisting low temperatures, is equally vigorous.

Several botanists consider the peach and the almond as the same species; and some *hybrids* have induced an eminent horticulturist to believe that the peach *originated* in a period comparatively recent. A nut-shell changed to the most exquisite of fruits! Astonishing as this *supposed* change may appear, it is clearly implied however, in the assertion that the peach is a variety of the almond; and whether this change occurred in the remote ages, or modern times, the probability of the theory remains unaffected.

It is remarkable that the peach is no where mentioned in the Bible. If it was indigenous to Persia, as authors commonly admit, it seems probable that the Jews would have known it, and the sacred writings have contained some allusion to it, when the grape, the olive, the almond, and the fig were named. This silence has not been satisfactorily explained. It appears, however, that the peach grows[†] near Pekin in China; and if that country is its native locality, it would not be hard to understand why it became known at so late a period in the western parts of Asia.

I am disposed to believe the peach a distinct species. Its *solitary* flowers constitute one of the most striking traits of its *specific character*, while those of the almond are *in pairs.* These traits are given by botanists as constant; and though the inflorescence differs not, except in *number*,—yet *number* when constant, is freely and unexceptionably admitted into *specific characters* in other genera. In *Mitchella, Linnæa*, or *Xylosteum*, no part of even the *generic character* is more unvarying than the *germinate* position of the flowers.

A *specific difference* may also be inferred from the numerous and multiform *varieties* into which the peach is annually spreading, when contrasted with the more permanent character of the almond. A case nearly parallel may be found between *Ribes rubrum* (the common currant) and *Ribes grossularia* (the garden gouseberry,) the former, like the almond, not having produced more than six or eight well known *varieties,*—when those of the latter, like the *varieties* of the peach, are too numerous to be recorded.

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[*] We know too little of the *flat peach* of China to make it an exception.

[†] "Grapes, *peaches*, apples, and delicious pears are extremely abundant." "*Timkowski's* Travels of the Russian Mission to China in the years 1820, 1821."

A further difference is found in the shell of the almond which splits open to discharge the nut: the pulp of the peach has no determinate opening.

But while some have asserted the peach to be a native of Persia, other writers are not less confident of its being indigenous to America. To prove this position, the testimony of the Chevalier *Touti* who wrote an account of *De La Salle's* expedition in 1678, has been quoted: "In the Illinois country one sees whole plains covered over with pomegranate trees, orange trees, and lemon trees; and in one word all kinds of fruit trees"—*the peach tree being necessarily amongst them*

Kalm the Swedish traveller who visited this country in 1748 is more directly to the point: "I have been told *by all* those who have made journies to the southern parts of Canada, and to the river Mississippi that the woods there abound with *peach trees* which bear excellent fruit; and that the Indians of those parts say that those trees have been there from time immemorial."

William Penn's account of Pennsylvania in 1683 has also been cited: "here are also peaches, very good, and in great quantities—not an Indian plantation without them; but whether naturally here at first I know not,—however one may have them by bushels for little. They make a pleasant drink, and I think not inferior to any peach you have in England, except the true Newington."

On rejecting all these proofs of its *American* origin, it might be sufficient to say that no intelligent botanist or respectable traveller of the present times, has given any countenance to such a notion. It may not be uninteresting however, to take a second look at the evidence.

It will not be required of us to suppose that Chevalier *Touti* even aimed at the truth when he spoke of whole plains covered over with pomegranate, orange, and lemon trees in a climate where the mercury occasionally descends in Fahrenheit's thermometer nearly to 20 degrees below zero. Besides, nature has never yet congregated "all kinds of fruit trees" within such limits.

Kalm was duped. It is plain that he considered all further enquiry unnecessary; and that *a fact so unquestionable* might be expressed in hyperbolical language.

On this subject *William Penn* has shewn a discrimination in full accordance with his high character: "not an Indian plantation without them, but whether naturally here at first I know not"—implying that the peach tree was an object of culture, and not wild in the woods like the plum, the crab apple and the mulberry.

It cannot surprise us. if the peach tree attracted the *early* notice of the first settlers of Virginia and Maryland. It had been cultivated in England 70 years before the latter colony was established; and 50 years more had elapsed before the arrival of *Penn.* In favorable situations these trees bear fruit in three years from the stone; and no people who had fixed habitations were greater travellers than the American Indians. If therefore these trees were found at this period on the banks of the Mississippi, according to father *Hennepin*, it can be no cause of wonder even on the assumption that the peach was derived from Virginia. Some of the Cayuga or Seneca Indians attended one of *William Penn's* treaties near Philadelphia; and peach trees of great age were standing in their old clearings when the whites first settled this district. Old Indian apple trees are still common amongst us.

The peach tree is liable to perish from two causes which affect no other fruit tree, viz. *the worm,* and *the yellows.* I have not discovered that the *worm* attacks the peach tree in Britain; and this species of *Ægeria* was first named and described by our countryman *Thomas Say* in his Entomology. If indigenous to America on what plant did it feed previous to the introduction of the peach tree? Or was it imported *in the trees* from some other part of Europe?

Though active this insect is not much to be dreaded except by negligent cultivators; but *the yellows* are truly formidable. *Much of the destruction caused by this malady has been ascribed to the Ægeria.*

The yellows is a name imposed by the late Judge *Peters** who imparted much interesting information on this subject. Of the *origin* of this malady however, nothing is known. That it is similar in its nature to the *gold* and *silver* spots which occur in ornamental shrubs, I have formerly shown; and also that like the colored varieties of the box or of the holly, it may be propagated by budding. It differs greatly in the degrees of its virulence however,—soon destroying some trees, while others are permitted to remain for years without sensibly declining.

A proper understanding of this matter is of so much consequence to the fruit gardener, that I take the liberty to *repeat* some cases which I noticed in a former paper.

A tree of Kennedy's clingstone from a nursery near New York was planted in my garden in the spring of 1824. The leaves were more yellow than usual, *numerous sprouts* of *feeble growth* and *sickly aspect* sprung from the *principal branches*; and the fruit, with *purple discolorations* through the pulp, was *earlier* and *irregular in its ripening.* Yet notwithstanding these unequivocal symptoms of *the yellows* when *combined*, after seven years growth, it equalled the average size of the healthy trees planted near it at the same time; and I only destroyed it through apprehension that the malady might spread.

Two other trees of that same package were deeply diseased. Such would now be immediately detected; but I had never before seen *the yellows* in the western parts of New York, and was practically ignorant of its nature. I was anxious to preserve the kinds; and though I had never before taken buds from scions so attenuated and feeble, yet they *took,*—and soon destroyed the healthy trees into which I had set them.

Adjacent to one of these budded stocks, stood a *fall peach* tree which had borne many years. On recovering from sickness in 1827, I sent to the orchard for *early peaches*, and to my great surprise ripe fruit was brought from that tree, one month before the ordinary time of ripening. It died in the following year; and appeared to have taken the infection from its neighbour, either through the medium of the pollen, or the contact of the roots.

The practice of Judge *Peters* was excellent: "when trees become sickly, I GRUB THEM UP; I find that sickly trees often infect those in vigor near them by some morbid effluvia." And the remark of *William Coxe* ought to be added: the peach tree "cannot be cultivated with success on the site of a former plantation, until some years and an intermediate course of cultivation have intervened." D. T.

PERUVIAN COTTON.

We have seen a specimen of the Peruvian cotton recently imported at Boston from the Pacific. The quantity imported is nearly 400 bales, or 60,000 pounds, and it cost in the country of its growth only one cent a pound. The loss of weight in ginning is about 60 per cent. The plant from which it is obtained, we are informed, is a tree, which grows spontaneously in the western parts of South America.

[*N. Y. Daily Advertiser.*

(From the New England Farmer.)

HEATING HOT HOUSES BY HOT WATER.

Thos. G. Fessenden, Esq.: *Boston, Nov. 25, 1831.*

Dear Sir,—Permit me to ask your opinion on the following points in relation to heating hot houses with hot water, as you are better informed perhaps, than any other person in this country upon the principles of the method generally; and being as I understand much interested in the subject may think it of importance enough to investigate such facts as are not already familiar to you.

Having as you know erected an apparatus for heating a house eighty feet long with hot water upon principles which I supposed to be correct in relation to the object I had in view; that is, to keep up a regular and safe heat, during our long winter nights, without the necessity of an attendant after the usual time of retirement to rest, and with a view to the economy of fuel by this method over that of heating by smoke flues. I have been somewhat surprised by opinions that I understand have been given by highly respectable gentlemen in this neigbborhood, which if correct, render my labors useless, and the expense I have been at a total loss; and for this error I am indebted to Mr. Atkinson the inventor.

As some gentlemen have taken directions from me with a view to establish a similar apparatus, I think it my duty to make public my error, if I have committed one, that they may be prevented from falling into a like mistake; under these circumstances you will oblige me by showing the defects of my apparatus, that others may profit by your experience and knowledge on this subject, if it be no longer in my own power to do so. The first objection, I understand, which is made, is to *large* boilers and *large* reservoirs; and as mine are of this description, it is an important one to me. The secord is to placing the upper pipe three inches below the rim of the kettles, it being contended that it ought to be placed at the highest point in them; and as my pipe is according to the first plan it must be useless. The third is depending on hot water alone; it being urged that there ought to be a brick or smoke flue also in the house. The fourth is the enormous quantity of coal or fuel that this mode of heating requires where the apparatus is large.—And the fifth is one that does not immediately affect me, but does others who have two pipes running from the upper part of their kettles while they have but one lower pipe of equal size to return the water from the reservoir to the boiler. It is said that if there be not two lower pipes where there are two upper ones, the one that returns the water to the boiler ought to be equal in size to both the upper ones.

In answer to the first objection, I must observe that the terms *large* and *small* in this case are relative, and cannot be defined except in connexion with the size of the house to be heated, that is, the number of cubic feet of air which the house contains, and the time that it is desirable to keep up the heat after the fire is extinguished.

There is no doubt that a house may be heated much sooner with a shallow broad bottomed boiler without any reservoir at all, or with a very small one, than it can with a large boiler and large reservoir; but the heating of the house quickly is not the only object to be obtained; you want not only to heat your house but to keep up a sufficient degree of heat many hours after the fire has gone out: to accomplish this there must be a quantity of water heated sufficient to produce this effect. Mr. Tredgold says in his letter to the secretary of the London Horticultural Society in reviewing a communication from Mr. Atkinson to that society on this subject, "But the most important of the properties of the hot water method, as first tried, consists in the power it has of keeping up the temperature of the house for a long period without attention from the attendant; and it is entirely owing to the excess of fluid that it has this advantage over steam heat; and the exact knowledge we now have of the heat which water contains, in proportion to its temperatore, enables us to calculate the time the cooling of the fluid will maintain the heat of the house." That gentleman further says that gardeners object to large boilers and large reservoirs, on account of the time it takes to heat them; but the excess of water over and above what is necessary to heat your house while the fire is kept up, is *a reserve* of heat to be given out after your fire is extinguished, and he recommends as an improvement of Mr. Atkinson's apparatus with a large boiler and large reservoir to pass the pipes through the water of the reservoir.

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* Memoirs of the Philadelphia Society for promoting Agriculture, vol. i, page 120.

That Mr. Tredgold is in favor of large boilers and large reservoirs, where a reserved heat is required to keep up the temperature of the house after the fire is out; and that he thinks them absolutely necessary, appears in many instances in his letter to the secretary. Referring to one of his shallow boilers he says; "if a boiler have sufficient surface to receive the effect of the fire, and the whole apparatus contains as much water as will convey the heat from the fire to the heating surface in the time corresponding to its velocity, its capacity need not be further increased, *except as a reservoir of heat to act when the fire ceases to burn*"

What does this mean? Why if you want a temporary heat, or one that can be kept up while your fire is burning under the eye of an attendant, a shallow or small boiler will answer your purpose; but not so if you want to keep up the heat any time after your fire has gone down. So he says again. "Where heat is required *only during the action of the fire,* a large surface in proportion to its capacity may be used with advantage to give off heat over the descending pipe." Mr. Tredgold seems to think that where a reserved heat is required to keep up the temperature of the house after the fire has gone out, large boilers cannot be dispensed with.

There is another theory maintained here by one of the gentlemen referred to, which is. that you should have a small boiler, and a large reservoir; in place of two kettles of equal size; by which means, it is contended, you can heat any given quantity of water with less fuel, if not in less time than you can if the water is equally divided in the two vessels. I confess I cannot understand how this can be done.

Suppose for instance the size of your house should require 280 gallons of water heated, to keep up the temperature of the house eight hours after the fire has gone out; in one instance the water is equally divided into two kettles, 70 feet from each other, each containing seventy gallons of water; making 140 gallons; the rest of the water is contained in two pipes, each 70 feet long, with a bore large enough to contain the residue of the water. or 140 gallons more, making in all the 280 gallons to be heated; this is the case in my house.

In the other case the water is distributed into two kettles, the boiler containing only twenty gallons and the reservoir 120 gallons, and the pipes, as before, 140 gallons; making, as in the preceding case, 280 gallons in all; can the 280 gallons of water in the last distribution be heated sooner, or with less fuel, to the temperature of 185 deg. than it can in the former one?—This is a question of importance, and if it can be truly answered in the affirmative, then I cannot account for the oversight of Mr. Tredgold in not mentioning it as an improvement on Atkinson's plan, if it be one in fact.

But suppose that it could be heated with less fuel and quicker too; the question then arises, would it answer as well to keep the house at a proper temperature during the night at both its ends? The fire being extinguished the whole mass of water soon becomes of the same temperature; in the reservoir, however, you have six times as much water giving out heat as you have in the boiler; will not the end where the reservoir stands be kept warmer and warm enough, when the other end of the house will be cold?—But Mr. Tredgold has given plates of seven different modes of heating hot-houses by hot water, six of which differ from Mr. Atkinson's, four of the six are with shallow boilers and no reservoirs;—one with a large deep boiler and no reservoir; and one with a deep boiler and deep reservoir covered at the top with high upright pipes, both in the boiler and reservoir, for the purpose of carrying the water over a door in the house; but the apparatus with a *small boiler* and *large reservoir*, he seems to have forgotten. This may be seen in his letter to the secretary of the Horticultural Society, No. vii., part iv. of the Transactions. It does appear to me that if this mode of heating with a small boiler and large reservoir had possessed any advantages over two large kettles of equal size, Mr. Tredgold must have seen it. I am more particular on this point, because several gentlemen have mentioned it to me as an improvement on my apparatus—not that I ever for a moment could understand, or believe in its efficacy.

The next objection made to Atkinson's apparatus is the placing the upper pipe three inches below the brim of the kettle. It is urged that it ought to be placed at the highest point in the boiler and reservoir.

Any one who looks at Mr. Tredgold's plates will see that this is not the fact; and the very means by which the circulation is produced through the apparatus shows that Mr. Atkinson is right in directing the upper pipe to be placed three inches below the brim of the kettles; for if you were to place your upper pipe near the rim of the boiler, the moment the water was heated to a sufficient temperature to produce a circulation, your boiler would overflow and you would lose all the advantage which is derived from its expansion.

Mr. Tredgold says, "the aperture of the upper pipe should not be more than about an inch below the surface of the water, or as much as prevents its drawing air in an open boiler." Now here is an inch of water allowed by Tredgold above the upper part of the upper pipe in the outset, when the water is all cold. "If heat be applied to the boiler," continues Mr. Tredgold, "the effect of the heat will expand the water in the boiler, and its surface will in consequence rise to a higher level." This he marks in his plate about one and half inches above the level of the water when cold; of course the water in the boiler is raised two and a half inches above the upper part of the pipe, and if there had not been sufficient space left above the pipe, it would have run over: and as the circulation depends on this head of water, through its tendency to produce an equilibrium, it cannot be dispensed with in any case, or in any apparatus, whether open or closed, shallow or deep, great or small, that I can perceive.

The third objection made to Atkinson is, that he depends altogether on his hot water without the auxiliary of smoke or brick flues, by the aid of which, it is said, the temperature for a long time may be raised many degrees above the heat from the hot water pipes, and that this heat ought not to be lost. I had conceived that one of the principal objects of heating with hot water, was to get rid of smoke flues; and Mr. Tredgold seems to me to favor this opinion very strongly. He says in the letter to the secretary above referred to. "The obvious advantages of this method are

1st. The mild and equal temperature it produces, for the hot surface cannot be hotter than boiling water.

2nd. The power of heating such a body of water as will preserve the temperature of the house many hours without attention.

3d. The freedom from smoke, and other effluvia of smoke flues."

"In houses for plants," says he, "these advantages are most important." Here then Mr. Tredgold thinks one of the obvious advantages of hot water apparatus is to exclude smoke flues.

The fourth objection made to this mode of heating with large boilers and large reservoirs is on account of its great consumption of fuel; which, if well founded, is a very serious one, and indeed fatal to its usefulness where economy is an object. But I can see nothing in Mr. Tredgold's communication which justifies this belief. From my own experience, which is to be sure but small, I should doubt the fact. On the contrary, I believe that a house eighty feet long may be kept at a proper degree of temperature during the twenty-four hours, by this method, with one third the fuel, to speak within bounds, that a brick flue would consume in a building of the same dimensions. But I may be mistaken, and shall wait until I can test the fact, as I hope to be able to do the coming winter.

The fifth objection to Mr. Atkinson is the introduction of two pipes at the upper part of the kettles to convey the water from the boiler to the reservoir and one only at the bottom to return the water from the reservoir to the boiler.

It is said that the pipe below must be as large as both those at the top or the circulation will be checked—is this correct?

When the water in the boiler is heated to a proper temperature it will be raised by expansion, as in the case before stated:—"and although the density of the water in the boiler will decrease in consequence of its expansion, yet as soon as the head or column of fluid in the boiler above the centre of the upper pipes is of a greater weight than the column or head in the reservoir taken from the same level, motion will commence along the upper pipes from the boiler to the reservoir; and the change this motion produces in the equilibrium of the fluid, will cause a corresponding motion in the lower pipe from the reservoir to the boiler," so says Mr. Tredgold. Now when ten gallons of water are displaced from the boiler through the upper pipes, is there not a corresponding quantity let into the bottom of this vessel from the lower pipe immediately, to produce the effect above stated? What odds does it make whether the lower pipe be smaller or larger than the upper one? it can only discharge so much water in either case into the boiler as will produce the equilibrium above spoken of, and if the lower pipe be larger than the upper one the water from it will move more slowly; if it be smaller, it will move more rapidly. This at least is my view of the subject, and if I am wrong I should like to be corrected. If I am right, then it follows that if the two upper pipes, each 4 inches in diameter, take off ten gallons of water from the boiler in ten seconds, the same quantity will be replaced from the lower pipe (which is also a 4 inch bore) in the same period of time; but the motion of the water in the lower pipe will be twice as great as that in the upper pipes. The only reason why I should want my lower pipe as large as my upper one is, because the greater its caliber the more water there is to be heated to serve as a reserve heat; and the greater the surface over which this heat is given out after the fire is extinguished.

In an apparatus to be used only during the attendance of the gardener, if my upper pipe would give me heat enough to raise the house to a proper temperature, I believe a returning pipe of one third the size of the other would answer all the purpose required.—The only question in my mind is, as the friction in small pipes is greater than in large ones, whether any obstruction arising from *this* cause would retard the motion?

There is one construction of apparatus by Mr. Atkinson which has been erected here under his written directions, of which I confess I feel more doubt as to its operation; it is this—the boiler being in the shed behind the back wall of the house, has one upper pipe only leading from its top across the end of the house to a square iron box in the front of it. From this iron box there are two upper pipes of the same size as the first named, leading along the front of the house fifty feet into another square iron box; and from the side of this box there is one upper pipe only to convey the water to the reservoir across the house to the back wall, where it is placed. From the reservoir there is only one returning or lower pipe back to the box in front of it, and thence to the box in front of the boiler, and thence to the boiler itself. It is said this plan is entirely defective. I own I should prefer to have the two upper pipes run directly from the boiler to the reservoir, and to have the lower pipe return in the same manner. But if Mr. Atkinson communicated this plan to the secretary of the horticultural society, I am surprised that Mr. Tredgold did not, in his review of that article, point out its defects. I should think that the acute angles where the pipes join the boxes would retard the circulation of the water. I should also apprehend that the single upper pipe leading across the house from the boiler ought to be large enough to convey as much water to the box in front of it, as is taken off by the two upper pipes that run in front of the building; but experiment alone can show the fact.

I have written you so long a letter I am ashamed to send it to you—but as you are as interested in the subject as I am, and know much more than I do of its principles, I trust you will excuse the trouble I am giving you to peruse and answer it.

With much esteem and respect, I am, dear sir,
Your obedient servant,
SAMUEL G. PERKINS.

By the Editor,—Although my respected correspondent has given me credit for much more science on the subject he has discussed than I possess, I cheerfully contribute my mite to the treasury of useful information.

Heating rooms, &c. by steam, is a modern invention, and the use of hot water for warming hot houses is of still later origin. In the London Philosophical Transactions for the year 1745, it is stated that Col. W. Cook suggested the idea of employing steam as a means of distributing heat. Steam has since been applied for that purpose in Great Britain and in the United States in various ways, and a great many patents have been granted in both those countries for real or supposed improvements in that branch of economy. "The first of these patents," says Mr. Tredgold, (*Treatise on Warming and Ventilating Rooms, &c. p.* 11,) "was granted to John Hoyle, of Halifax, in 1791, for a mode of communicating heat to green houses, churches, &c." His plan consisted in conveying steam in pipes or tubes into, round or through the place to be warmed; the pipes being first raised to their highest elevation, and then descending with a gentle declivity to a cistern for the condensed steam; the supply of water to the boiler to be regulated by a ball cock, (*Rep. of Arts. vol.* 1, *p.* 300—303 *old series.*) This scarcely differs in any thing from Col. Cook's plan, which had been known forty years sooner. In 1793 a patent was granted to Joseph Green, whose mode of application was different, and has had the honor of being adopted, with slight variations of form, by a number of later projectors. His method consisted in passing fresh air through a worm or pipe, immersed in *hot water* or *steam*, by which means the purity of the air was to be preserved. When the heat was conveyed to a distance, he says, "I inclose the pipes through which the warm air is conveyed in large pipes to which the steam rises from the boiler.—(*Rep. of Arts.* vol. 1, p. 21—24, old series.) Col. Cook's idea was neglected, no doubt because it promised too much. Whoever attempted to warm a large suite of apartments by the spare heat of a kitchen fire would fail, because so small a quantity of heat is quite inadequate to produce such an effect. But, when revived with less pretension, steam was found to be a convenient and economical mode of distributing heat."

Loudon says, "pipes of hot water have been proposed to be circulated through hot houses by Knight, (*Hort. Trans.* vol. iii ;) the plan was tried many years ago by the late Gould, gardener to Prince Potemkin, in the immense conservatory of the Tauridian palace at Petersburgh."—*Enc. of Gard.* p. 328.

The advantage to be derived from heating hot houses by hot water is the consequence of the great *capacity* of water for heat. Suppose a gallon of water was heated to 212 degrees, the boiling point, and a gallon of air was also heated to the same temperature. The water would contain, according to the lowest estimate, (for philosophers are not perfectly agreed on this subject,) *five hundred times as much heat as the air.* If the water and the air, when so heated, were each of them confined in similar water tight and air tight vessels, in contact with as much ice as each could melt in cooling, the hot water would be found to have melted at least five hundred times as much ice as the hot air. Water too, when heated, will be at least as much longer in cooling than air, of the same temperature, as it contains more caloric.

"Water," says an eminent philosopher, "appears to possess the greatest capacity for heat of any pure liquid yet known, whether it be compared with equal bulks or weights; indeed it may be doubted whether any solid or liquid whatever contains more heat than an equal bulk of water of the same temperature. The great capacity of water arises from the strong affinity which both its elements, hydrogen and oxygen, have for heat. Hence it is that solutions of salts in water, contain generally less heat in a given volume than pure water; for salts increase the volume of water, as well as the density, and having mostly a smaller capacity for heat, they enlarge the volume of water more than proportional to the heat they contribute.[*]

It is, however, remarked by Mr. Tredgold, that the boiling points of solutions of salt and some other liquids are higher than the boiling point of water. Linseed oil, for instance, will not boil until it is heated 600 degrees, or made almost three times as hot as boiling water. Consequently we should need only one third as much surface of pipe, and one third the capacity of boiler and reservoir for heating a given space with boiling oil as with boiling water. But solutions of salts are corrosive, and oil very inflammable, as Mr. Tredgold correctly observes. On the whole, we believe there is nothing like water to seize and retain the heat produced by combustion, and prevent its escape into the open air before it has been subservient to any purpose of economy. Steam is an excellent agent to carry and distribute heat. With the help of a little skill in its management, it will go where you bid it, and leave its commodity of caloric where most needed. But it carries but little heat at a load, in proportion to its bulk and temperature. It requires large surfaces of pipes or other receivers, in proportion to the space it warms. And in a few minutes after the fire which creates it slackens or is extinguished, the vessels it filled become as cold as the air which surrounds them. Hot water carries and distributes much more heat than steam in proportion to its bulk and temperature, requires less apparatus, and heated surface for emanating a given quantity of heat, and will continue to give out warmth for hours after its supplies from the fire place are cut off. But it must be dealt with according to the laws of hydraulics and hydrostatics, and though more efficient when it begins to act, is not so readily brought into action as steam.

With regard to large boilers, and large reservoirs, which Mr. Perkins says are objected to, we can say nothing either from our own experiments, or from personal observation; and shall merely give the opinions of such writers as we have been able to consult; together with some remarks, founded on analogy, and the little experience we have derived from a portable apparatus, which we call a Steam and Hot Water Stove (for which the writer has obtained letters patent,) for heating apartments, &c., by the agency of hot water and steam. In addition to what Mr. Tredgold observed, (as quoted above by Mr. Perkins,) in favor of a large boiler, "as a reservoir of heat, to act when the fire ceases to burn," it may be stated that the experiments of Count Rumford, (*Essay* vi. chap. v.) are in favor of large boilers. For, in order to keep 508 pounds of water boiling, the expenditure of fuel by the hour was something short of one eighteenth part of the weight of the water; whereas, in a smaller boiler, holding only 284 pounds of water, the expenditure of fuel was more than one twelfth part of the water. Mr. Tredgold judiciously observes that "the bottom of the boiler should have sufficient extent of surface to receive all the force of the fire, as far as the heat of it is capable of being extended, so as not to be less than 212 degrees; a greater surface will not generate steam; a less will not produce the greatest effect. And it is clearly a disadvantage to suffer the smoke of the fire to come in contact with the boiler after its heat is less than that of boiling water; for if it be continued in contact with the boiler, it will rob it of heat instead of adding to the effect of the fire.[*]

If the boiler is less than the reservoir, its perpendicular height should be at least as great, in order to insure the quick circulation of the fluid.

Mr. Tredgold says, "all other things being the same the velocity will be increased in proportion to the square root of the depth of the boiler; therefore in a boiler four times as deep the velocity would be doubled."[†]

Among the several plans, which Mr. Tredgold has given as improvements on Mr. Atkinson's, we should prefer the one sketched above by Mr. Perkins, with this alteration, which might not however be an improvement.—The reservoir we would make much larger, in proportion to the boiler, than is there represented. We would do this because *all water, however low its temperature may be, contains a large portion of caloric.* A large quantity of water drawn from a well or taken from a spring in the winter time, and placed in open vessels in a cellar, not subject to frost, generally protects vegetables, &c. from being frozen. This is a fact known and practised upon by many a good housewife, whose philosophy never dreamt of the cause. This we will briefly explain. Water at the mean temperature of this climate contains more than 20 degrees of heat, which it must give out before it can freeze, and while freezing, it gives out 140 degrees, according to Dr. Black. This heat is yielded to surrounding objects, including the vegetables, &c., in the cellar, which keeps the temperature above the freezing point of 32 degrees, till the water is frozen and can give no more heat. The vegetables, &c., will then freeze if the weather continues sufficiently cold, and no other supply of caloric is provided. We see no reason to dissent from the other statements of Mr. Perkins, whose remarks appear to us judicious and scientific.

We hope the importance of the subject will apologize for the length of this article; and intend to resume the discussion as soon as our avocations and pre-engagements will possibly permit.

ADULTERATION OF WINES.

Wines are adulterated with bitter lemons, or leaves of cherry-laurel, in order to impart to them a nutty flavor; with sweet brier, orrice root, clary and cherry-laurel water, and elder flowers, to give a high flavor; with alum, to render young and meagre wines bright; with cakes of pressed elder berries, to render faint colored port pale; with red sumac, to color white wines red; with oak saw-dust, or aloes, or husks of filberts, to give astringency to unripe wines; with tincture of raisin-seeds, to flavor fictitious port; and with a variety of spices, to render wine pungent.

[*Ryan's Medical Jurisprudence.*

Nothing promotes happiness more than an even temper.

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[*] Dalton's Chemical Philosophy.

[*] Tredgold on Warming and Ventilating Rooms, p. 163.

[†] Hor. Trans. vol. vii. p. 575.

RURAL ECONOMY.

SAUER KRAUT.

This is salted cabbage, much used in Germany, is an excellent and wholesome article of diet, and a cheap and effectual preparation for long keeping. It may not be agreeable to an untaught palate, but is much liked by all accustomed to its use, and the relish is as easily acquired as that for mustard, tomatoes, pickles, and a hundred other things that we *learn to love* in order to enlarge the circle of our enjoyments. Every new taste is a new pleasure. The following is the mode of preparation.

Shred cabbage fine and lay it in a barrel—first a sprinkle of fine salt, then a layer of a few inches of cabbage, and so on alternately until the barrel is filled, beating it down soundly with a heavy maul or pestle at every layer.

Eighty to one hundred cabbages and three pints or two quarts of salt will fill a barrel. Cover it with a head that will just pass down within the barrel, on which lay heavy weights. Some pour on the whole, after filling, a gallon or two of strong brine. After sometime softening and fermenting it will be fit for use. It may be boiled with pork, or fried.

Cousin Tabitha.

N. B. In return for all my *good receipts*, I request some one will give me directions for making and preserving Apple Butter. C. T.

DOMESTIC SILK.

We have been shown by Messrs. Pratt, Howe, & Co., merchants of this city, a piece of silk levantine, similar to the foreign article for vestings, of the same fabric, which was manufactured in Mansfield, in this state. With the exception of the "finish," which has not been brought to a complete state of perfection, the quality of the goods shown us will compare with the imported product. We understand from the Courant, that the inhabitants of Mansfield have for many years been engaged in raising silk worms, and that a large quantity of sewing silk has been annually manufactured there, from which a handsome income has been derived, but that until recently no attempts have been made at weaving. A manufactory of this kind is now in operation, with the most favorable prospect of success. We cannot but hope, that inasmuch as a company has been organized, and arrangements made by several citizens of Mansfield to prosecute the business of silk manufacture, that our merchants will, by their patronage, secure to those who had engaged in the enterprize, a handsome profit on capital so laudably invested.—*Connecticut Mirror.*

(From the Western Tiller.)

HOGS.

We begin to have numerous arrivals of these valuable quadrupeds at the slaughter houses of our city, and their appearance indicates that the corn crops throughout the country have been good; and that the farmers begin to be more sensible than formerly that the best way of disposing of it is to use it to increase the size of their hogs, so as to make them command the highest prices. Ours has for some years been the greatest pork market in the U. States; but the pork packed here, has not yet acquired so high a reputation as it ought to attain. It is, however, improving in this respect, and it is probable that in a few years the term "Cincinnati" when used as adjective to pork, will be considered as equivalent to that of "the very first quality." It is supposed that the quantity to be put up here this season will be much greater than during any previous year. We hope the prices may be as high as ever, and that those who have fed their corn to their hogs may find it a more profitable disposition of the article than it would have been to distil it into whiskey.

THE FARMER.

Baltimore, Friday, Dec. 23, 1831.

Cheat or Chess.—The importance of the subject induces us to recur to the question, what is the true character of cheat or chess? The opinion is very general among the farmers that it is degenerated wheat, and that unfavourable weather in winter is the cause of its degeneracy. This opinion, if erroneous, is productive of great injury, as it induces inattention to preventive precautions, and the proper measures should be resorted to, to correct it. Many persons treat this opinion with ridicule, and others are incredulous as to its extensive prevalence amongst intelligent farmers. The honest *opinions* of men, however erroneous they may prove on examination should ever be treated with respect, and can never be a proper subject for ridicule; for it must be borne in mind, that our opinions are the results of such evidence as has come under our observation, sifted and collated by such reflection as we have been able to bestow upon the subject; and therefore, if they be erroneous, the fault is not in us but in the imperfection of the testimony furnished. A jury is not required to make up a wise verdict without testimony as to the merits of the case; neither should men be expected to form correct opinions in the absence of materials for them. It may be remarked further, that testimony may be conclusive to some minds and far from it to others, with out justly implying culpable ignorance or stubbornness in those not convinced. Instead of ridicule, therefore, such opinions as we deem erroneous should be treated with respect, and their entertainers furnished with further testimony and thus enabled to correct them. Of the extensive prevalence of the opinion among respectable farmers, that cheat is degenerated wheat, there can be no doubt with persons situated as we are; and of its injurious tendency, if erroneous, there can be no question. We therefore, propose, that those who have examined the subject lay the result of their investigations before the public through the medium of our columns. We hope no one will be deterred from doing so by the apparent (to him) simplicity of the subject, or what he may consider an error too palpable to require correction. We wish the advocates of both theories to enter into the discussion, and shall take equal pleasure in laying the arguments of each side before the public.

A very respectable correspondent in a letter to the editor has the following remarks on this subject. We have not his consent to publish them, but as we suppress names and dates, presume he will not object to it:

"A month or two ago in one of the numbers of the Farmer, you expressed considerable surprise at the prevalence of the opinion that cheat was degenerated wheat, and seemed inclined to think it might be deposited by birds. I have now been farming for the last ten years, and always believed, and am confirmed in my opinion by observation, that the vegetating power of the grain becomes so much impaired by exposure to wet and dry, and the influence of the air, or by too great a quantity of moisture alone, as to prevent its maturing a good grain. I admit the dissimilarity in appearance when each is about shooting forth its head, but I have never been able to discover any difference in the blade and stalk in the first spring months. Some years since there was a kind of wheat introduced into this county from the state of New York, said to be able to resist the Hessian fly; I purchased a few bushels and sowed it, it yielded tolerably well, though not equal to the blue stem; I sowed it again, but there was an evident falling off, but thinking it might possibly be owing to the land, I tried it again in another field, but to my great mortification it turned out worse, there being a vast deal of cheat with it, and I believe if I had sown it again it would have brought one half cheat. Now to what are we to attribute it? The seed wheat I know to be clean. The birds of which you speak we have but few, I can only then attribute the failure of my crops with that particular kind to the effect of soil and climate; but being always open to conviction, I have marked one or two spots where the shocks of wheat stood, and consequently where some grain was left, which has vegetated, and shall let you know the result."

Now, if the "vegetating power of the wheat becomes so much impaired by exposure to wet and dry, and the influence of the air or by too great a quantity of moisture alone, as to prevent its maturing a good grain," we should suppose that the injury would be in degree according to the extent of the cause: that is, that when the weather that causes the injury was most severe, the defect in the grain would be greater than when the cause was slight; and hence that cheat would never be uniform in appearance—some being but slightly changed from wheat, some more so, and some even more worthless than cheat, as it is. All other vegetables, injured by the weather, retain their organic structure, and only indicate their degeneracy by their feebleness of structure and imperfection of fruit, and these in degree according to the extent of the cause. But cheat is always the same in form, and is marked by as distinct characters as any other plant. And here let us look at the botanic characters of cheat and wheat.

Bromus (*secalinus*, cheat,) glume, 3-20 flowered. Valves shorter than the florets, which are imbricated in two rows. Lower palea cordate, emarginate below the end, sometimes torn in two, with a straight beard, scales ovate, smooth. Seed coated, furrowed. Panicle compound.—*Loudon.*

Triticum (wheat,) glume, 2-valved, many-flowered, shorter than the spikelet: the valves nearly equal, beardless, or with one beard enclosing the florets. Paleæ 2, one of them being bearded from the end. Seed inclosed in the paleæ, rarely otherwise.—*Ib.*

Now there does appear to be a very distinct difference in the generic characters of the two plants; and one too, which, it seems to us could not be caused by any vicissitudes of the weather. There being little difference in the appearance of the two plants previous to the appearance of the heads, is by no means an evidence of their identity. There are many plants that resemble each other so closely previous to flowering that they can scarcely be distinguished except by a practised eye. Indeed there are many kinds of grass that few farmers can distinguish one from the other previous to their heading.

We shall not pretend to account for the appearance of cheat in wheat fields where it never grew before, and where perfectly clean wheat was sown. Our present opinion is, that the cheat may have been scattered by birds in many cases; but in the case stated by our correspondent, it appears to us that it must have been sown with the wheat. The seed of cheat is very small, and a few seeds when unobstructed by the luxuriance of the wheat, would in a year or two increase greatly. It appears to us that the only effect the weather can have in the production of cheat, is by either killing or so injuring the wheat as to allow the cheat to grow; for if the wheat grow vigorously it generally smothers the cheat.

We had intended at this time merely to request the attention of our correspondents to the subject. Our much respected correspondent D. T. is well qualified to investigate and throw light upon it, and we respectfully ask him to make it the subject of a paper for our columns.

We also recommend the following experiment:—prepare a small bed in the garden and sow one half with perfectly clean wheat, and the other with the seed of cheat; and during their growth examine them carefully and compare their characters. This will enable the experimenter at all times thereafter to detect cheat; but, what is more important, it will probably convince him that cheat and wheat are distinct plants, and that his only security against the pest is to be found in the perfect freedom of his seed wheat from the seed of cheat.

Card Machine.—It is pretty generally admitted, that one of the most ingenious machines ever invented is that commonly called Whittemore's Card Sticking Machine. Though pretty old and well known to machinists and manufacturers, we believe it is not so familiar to the public generally, especially in this part of the country. We would therefore suggest that those who are fond of examining ingenious inventions, call at the card factory of Mr. John H. Haskell, No. 102 West Pratt, between Howard and Eutaw streets, where several of these machines are in operation. We have not been inattentive to machinery, and yet have no hesitation in saying that the Whittemore card machine combines more ingenuity, beauty and effectiveness, than any other we ever saw. The saving of labour effected by it is immense, as may be inferred from the fact that the cards made by it can be afforded at $1.50 a square foot, whereas, those merely stuck by hand after the cards have passed through two other machines were formerly sold at $2.50—besides the great superiority of the machine stuck cards over those made by hand. The most curious objects to be seen at Mr. Haskell's, however, are the old machines for performing very small parts of the work done by the Whittemore machine alone. The one for cutting the wire and bending the teeth to be stuck by hand, is as complicated as the Whittemore, as is also very nearly the one for merely perforating the leather. There is also a machine at the same place for splitting leather, which is worthy of notice. Its intention is to shave the leather to make it of proper and equal thickness. We have thought this notice might be of service to our agricultural friends who have carding machines, as well as those fond of such things, as it will inform the former of a very worthy young man to whom they can apply for cards with full confidence in being well and promptly served, and enable the latter to gratify their curiosity when they come to town by examining the machinery.

Prices Current in New York, Dec. 17.

Beeswax, yellow 19 a 19½. *Cotton*, New Orleans .10 a .11½; Upland, .7 a .10; Alabama, .8 a 11. *Cotton Bagging*, Hemp, yd. 14½ a 17; Flax 13 a 14½; *Flax*, American, 7 a 8.—*Flaxseed*. 7 bush. clean .—— a —— *Flour*, N. York, bbl. 6.00 a 6.12; Canal, 6.75 a 7.00; Balt. Hwd.st. 6.50 a ——; Rh'd. city mills —— a 6.50; country, 6.25 a ——; Alexand'a, 6.37 a 6.50; Fredericksburg 6.00 a 6.12; Petersg. 6.25 a ——; Rye Flour, 4.75 a ——; Indian Meal, per bbl. 3.50 a ——; per hhd. 16.25 a 16.50; *Grain*, Wheat, North, —— a ——; Vir. 1.16 a 1.20; Rye, North,— a 90; Corn, Yel. Nor. 70 a —; Barley 1.31 a ——; Oats, Sth. and North, .50 a 58; Peas, white, dry, 7 bu. 5. Beans, 7 bu. 7.00 a 8.00; *Provisions*, Beef, mess 7.50 a 6.50; prime 5.25 a 5.50; cargo —— a ——; Lard .9 a .9¾; Pork, mess, bbl. 12.25 a 13.25; prime 10.00 a 11.25.

BUFFALOE BERRY TREES.

The subscriber will receive in a few days a few of the new and beautiful fruit trees originally from the Rocky Mountains, mentioned in No. 5, vol. 13, Amr. Farmer, called *Buffaloe berry tree*, or Shepherdia. This is one of the most beautiful of all ornamental trees, bears delicious fruit, and is perfectly hardy—*price $1 each.*

BULBOUS FLOWER ROOTS.

The subscriber has for sale a small but elegant assortment of Tulips, early double and single Van Thol, and common kinds; Crown Imperials and Persian Fritillaries; Polyanthus narcissus, yellow and white fragrant; Yellow fragrant and White fragrant; Double and single fragrant Jonquils, &c.

A few of his splendid collection of new Pæonies and Hemerocalises yet on hand. GIDEON B. SMITH.

FRUIT, ORNAMENTAL TREES, SHRUBS, AND PLANTS.

SINCLAIR & MOORE,

Inform their friends and the public generally, that their stock on hand this season is large, of thrifty well grown trees, except those marked on the catalogue. The fruit in this establishment are all carefully grafted or inoculated mostly from bearing trees, of the choicest collection of American and European fruits.

This nursery will afford purchasers in our own state the important advantage of planting their trees on the first, second, or third day after they are taken out of the ground, (provided the holes for the trees are previously dug, which they always ought to be,) having quick transportation to most every part of the state.

Printed catalogues for this season describing the names of plants, time of ripening, and price, as also directions for planting, to be had gratis at their Plough and Seed Store, Pratt street wharf, Baltimore, or at their Nursery, three and a half miles east of the city, between the Philadelphia and Bellair roads; the best and nearest way to go to it is by going out the latter road two miles, to a pointer of further direction. The senior partner resides on the premises, and constantly superintends the same, and would be pleased to see persons disposed to encourage, or view their extensive collection, where they can see and choose for themselves.

For the information of those who are not in possession of a catalogue, they will mention some of the principal articles ready for sale, to wit:—

Apple, Pear, Peach, Plum, Cherry, Apricot, Nectarine, Fig, Gooseberry, Currant, Raspberry, Strawberry, Quince of sorts—Grape Plants, fine size, many choice kinds, Thorn and Honey Locust for hedges.

ORNAMENTAL TREES.

English Elm of middling and extra large size.

Italian White Mulberry, of do. and large do.

Horse and Spanish Chestnut.

Linden and Sugar Maple Trees, Paper Mulberry, Abeal or Silver leaved Poplar, Yellow and Honey Locust, Chinese Aleanthus, or tree of Heaven, English Walnut, Mountain Ash, Buttonwood, Black Walnut, &c. &c. Balm of Gilead, or Silver Fir, White or Waymoth Pine, Dwarf Box, Cutting and Rooted Plants, Black Double Spruce, Arborvitæ.

ORNAMENTAL SHRUBS.

Roses, both hardy and Chinese or ever blooming, a good assortment, Double Althea a superior collection, Linock five kinds, Snowberry Tree, Grounsel Trees, Roseacacia, Corchories, Scarlet Trumpet Creeper, White Flowering Virginbower, White Flowering Jasmine, Yellow Flowering do., Scarlet Trumpet, Monthly Honeysuckle, White Striped Monthly do. of exquisite fragrance, Multiflora Rose, Graville's Superb Multiflora, cuttings of Grape, Apple, Peach, &c.

TO THE PUBLIC.

Having assured my friends and patrons that should I ever find it necessary to lower the prices of my PLOUGHS, that I would give public notice thereof, that every gentleman may know the price he will be charged before he sends his orders—I therefore submit the following reduced prices to the public, which will be my charge from the date hereof.

Balt. Sept. 17, 1831. J. S. EASTMAN.

No. 6	a small Seed Plough,	$4 50
7	also a seed do.	5 00
7	improved and a heavier Plough,	5 50
7	Bar Share for stony land,	6 00
8	one or a small two horse Plough,	5 50
8	large size improved small 2 horse do.	6 00
8	Bar Share for rough soil,	6 50
9	small 2 horse Plough, called the poney do.	7 00
9	large size heavier Plough improved,	7 50
9	Bar Share Plough for rough soil,	8 50
	Sword Coulter for the same $1 50.	
10	a large 2 horse or small 3 horse plough,	9 00
10	Bar Share for rough soil,	11 00
	Sword Coulter for the same $1.75.	
12	a large three horse Plough,	14 00
	Sword Coulter for the same $2.00.	

For sale improved Barshare Plough, and the Scotch Plough improved by Geo. Glezy, together with his usual assortment of AGRICULTURAL IMPLEMENTS and Grass Seeds. He has also received by ship London Packet, a fresh assortment of GARDEN SEEDS, which are believed to be of superior quality. J. S. E.

BALTIMORE PRICES CURRENT.

Baltimore Market. The navigation continues closed, and of course little business is doing. Howard street flour continues at $5 from wagons; from stores we are informed that sales can be made at $5.25. The small quantities of wheat coming in by wagons sell readily within the range of our quotations. Family pork from wagons is selling at $5.25 a 5.50.

Tobacco.—Seconds. as in quality, 3.00 a 5.00; do. ground leaf, 5.00 a 9.00.—Crop, common, 3.00 a 5.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 10 00; yellow and red, 8.00 a 14.00; yellow, 14 00 a 16.00.—Fine yellow, 16.00 a 20.00.—Virginia, 4.00 a 5.00.—Rappahannock, 3.00 a 4.00——Kentucky, 3.50 a 8.00. The inspections of the week comprise 20 hhds. Md.; 32 hhds Ohio—total 52 hhds.

Flour—best white wheat family, $6.75 a 7.25; super Howard-st. fresh 5.25 *a* ——; city mills, fresh —— *a* ——; Susq.— *a* —; **Corn Meal** bbl 3 50; **Grain**, Md. red wheat, 90 *a* 1.06; white do. —— *a* ——, Susq. —— *a* —**Corn**, white, 50 *a* 52—yellow 50 *a* 52—New Corn 43 *a* 45—**Rye**, 80 *a* 81—**Oats** 33 *a* 35. **Beans**, 75 *a* 80—**Peas**, 65 *a* 70—**Clover-seed** 5.00 *a* 5.50—**Timothy**. 2.50 *a* ——**Orchard Grass** 1.50 *a* 2.00—Tall Meadow Oat Grass 2.00 *a* 2.50—Herd's, 75 *a* 1.00—Lucerne — *a* 37½ lb.—**Barley**,—**Flaxseed** 1½ *a* 1 5-8-**Cotton**. Va. 8 *a* 9-Lou. 9 *a* 12—Alab. 8 *a*. 10—Tenn. .8 *a*. 9; N. Car. 8½ *a*. 9½-Upland 8 *a* 10—**Whiskey**, hhds. 1st p. 32 *a* —; in bbls. 34 *a* 35——**Wool**, *Washed*, Prime or Saxony Fleece 49 *a* 57; American Full Blood, 47 *a* 55; three quarters do. 41 *a* 47; half do. 35 *a* 41; quarter and common do. 32 *a* 35. *Unwashed*, Prime or Saxony Fleece, 30 *a* 34; American Full Blood, 27 *a* 30; three quarters do. 25 *a* 27; half do. 22 *a* 25; quarter and common, 19 *a* 21——**Hemp**, Russia, ton, $245 *a* –; Country, dew-rotted, 5½ *a* 7c. lb. water-rotted, 7 *a* 9c.—Feathers, 37½ *a* —; Plaster Paris, per ton, 4.75 *a* ——, ground. 1.37½ *a*—— bbl. Iron, gray pig for foundries per ton 33.00 *a* ——; high pig for forges, per ton, 28.00 *a* 30.00; bar Sus. per ton, 72.50 a 80.00.—Prime Beef on the hoof, 4 00 *a* 5.00—Oak wood, —— *a* 5.00—Hickory, 6.50 *a* 7.00—Pine —— *a* ——.

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EDITED BY GIDEON B. SMITH.

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TERMS.

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2. Subscriptions are in all cases charged *by the year*, and never for a shorter term.
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4. The risk of mail in the transportation of both the paper, and of bank notes sent in payment for it, is assumed by the publisher.
5. Advertisements connected with any of the subjects of the American Farmer, inserted once, (seldom more) at one dollar per square.
6. All letters concerning this paper must be directed to the publisher. They must be free of postage, except communications intended for publication, and letters containing money.

☞ All Postmasters are requested to act as agents for the Farmer; they are authorised to retain $1 for each new subscriber, and 10 per cent. on *all other* collections.

Printed by John D. Toy, corner of St. Paul and Market streets.

AGRICULTURE.

ON THE HESSIAN FLY.

Cambridge, E. S. Maryland, }
Mr. Smith. *Dec.* 18, 1831. }

I cannot withhold my surprise and regret, at the apathy of the agricultural community, on that interesting branch of entomology, which comprises the history, character and habitudes of such insects, as are peculiar to the staple crops of our country; among which stands conspicuous, the "Hessian fly," known only as a deadly foe to the energies of man; annually multiplying upon us, and despoiling us of the fruits of our labors.

Having before, had the indulgence of a column of your useful paper, to implore the cooperation of fellow laborers, and fellow sufferers, in the investigation of this subject, I take the liberty, to offer a few more remarks, in the hope, that yet I may not be disappointed in my purpose.

I had long been anxious to see this implacable enemy, the "Hessian fly," in its state of maturity; and in all my frequent attempts to gratify my curiosity, heretofore frustrated, until recently, I obtained a plentiful supply.

The loose scattered wheat of my stack yard had vegetated early in the season, perhaps in July, and grew luxuriantly; on the 1st of September, my attention was attracted by its rapid decline; on examination, I discovered that almost every stalk was loaded with the chrysalids of this fly: I dug up a small sod without any regard to selection, and planted it in a flower pot, under a large glass jar, and placed it on my mantle piece, where it might have a uniform and warm temperature, to assist in their development: in a week or two, they appeared in their parental robes, crowding upon the few spires, which had survived their ravages; here I have commanded a full view of them, and their progressive operations, and will give you the result.

They belong to the order Hemiptera, genus Aphis; they are but little larger than a flea, and of much the same color and appearance, except that the abdomen is more obtuse and flat, and ends in two horns; the thorax is short, and the head in addition to two long antennæ, armed with a small, very sharp, inflected rostrum; they are obviously not constructed for a long flight.

Shortly after their appearance they commenced to deposit on the blades and stalks of wheat their young progeny, a mere speck, and with an excellent microscope, I confess I have not been able to satisfy myself, whether they are viviparous or oviparous; and it is very immaterial to any useful purpose, for they were ejected, if not in an egg, inclosed in a thin membrane, which under the influence of the warm temperature of the room developed the living animal in a few hours; this first deposit adhered closely to the blade or stalk, as if glued to the point on which it was made, and does not roll down as has been stated, but shortly casting off its almost invisible casement, the larvæ crawled down to the nearest joints of the plant, where the rostea are inserted, and their nourishment obtained; they pass through three metamorphoses in rapid progression, under a suitable temperature; I would suppose from the swarms produced, from so small a sod of wheat, there must have been several generations within the short term I have named.

The propagation of every variety of this family, the "aphides," is incalculably immense and indeed mysterious; it was first I believe, asserted by Bonnet, and since confirmed by Trembley, and others, beyond doubt, that the impregnation of *one* set of females of this family serves for ten succeeding generations, there being no males but once in that term.

From the foregoing statement of facts, it may be rationally inferred—1st. That this insect, the "Hessian fly," largely sustains itself, *through* the slovenly and reprehensible practice of leaving the loose scattered wheat of the stack yard to vegetate, and serve them for their nidification, by which myriads of legions may be raised from a few perches of ground; 2nd. That this medium of sustentation is the great secret, by which this mysterious and calamitous insect has been much multiplied throughout our wheat country.

3rdly. That the practice of fallowing on wheat stubble, by which much scattered wheat will vegetate in favorable seasons, and serve the purposes of the "fly," before it is ploughed down again, for the new crop is another prolific source of this evil.

4thly. And consequently, that to clean the stack yard, and other places, where loose wheat may have been scattered and vegetated, and to refrain from the cupidity, also otherwise culpable, of fallowing upon wheat stubble, for a crop of wheat, is the absolutely moral duty of every agriculturist, who is capable of consciousness of duty at all, to himself, or his neighbour.

In a former paper I have noticed and controverted the confident, laudable, but fallacious recommendation of your Canada correspondent, "to soak seed wheat in brine for the destruction of the egg of this fly" which he erroneously supposed to be on the grain: I must now take the liberty to remark, of a communication on the subject of the "Hessian fly" in the "Hagerstown Free Press," from Mr. McKee, that Mr. McKee is entitled to the thanks of the community for his contribution to this interesting question; but I can assure him he has been much deceived in his observations.

He is correct when he affirms that the egg of this fly is deposited on the plant, and not on the grain; but he is deceived in his observations when he says he "selected a few stalks of wheat in March, on which there were a number of eggs of this fly, that had been deposited in the fall previous, and they produced insects similar to the "common musketo," with the exception, that they were of a darker colour, and somewhat shorter; no doubt, he obtained such an insect as he describes; but it is not probable, that the eggs could have borne the cold of last winter, without freezing; and no egg having been frozen, will produce a living animal.

He must have had the progeny, from recent eggs; or, from *chrysalids,* of the fall previous, which latter, "analogy instructs us," may be capable of resisting any degree of cold; and he must have had the eggs, or chrysalids of some other insect, on the stalks; and not those of the "Hessian fly," because, this insect and the "common musketo" to which he assimilates it, are as totally dissimilar in appearance, as well as in all respects, as the "butterfly" and the "grasshopper;" or, as almost any two animals in the wide range of Zoology: the musketo belongs to the order Diptera, having only two *long extended* transparent wings; the hessian fly belongs to the Hemiptera order, and has four *short incumbent* wings, of a black colour, the former has long legs, the latter, so short, as scarcely to be discernable: the fly has two horns at the hinder part of the abdomen, the musketo has not: Mr. McKee, will readily perceive on a further investigation, that he has quite mistaken the insect.

This subject, sir, though apparently small, is one of the first magnitude; the first interests of agriculture demand its investigation, till the end be accomplished.

I repeat, sir, "the nidification" is largely effected in filthy stack yards; to scrape them and burn the litter; and, to avoid the fallowing upon wheat stubble, will be the surest prophylactic at present known, against this bitterest curse of agriculture"—and of

Yours, respectfully, Joseph E. Muse.

Saving Peas or Beans from Mice.

Chop up the tops of the last year's shoots of furze, and sow them in the drills.—*Loudon's Mag.*

DURHAM SHORTHORNS.

White Post, Frederick Co., Va. }
Mr. Smith: *Dec.* 20, 1831. }

Believing that you are not less a friend to truth and sincerity than to us shorthorn breeders, a friend to both, and deeply interested, begs leave to interpose a few thoughts, possibly to arrest a shorthorned war; at least a discussion which has heretofore been most ably conducted by veteran, experienced, and talented opponents. One of your correspondents touching the subject, it is feared has too little faith, while perhaps the other superabounds in it. The shorthorn cause is no longer to depend upon talented writers, it has received from them an honorable impetus which must now be sustained by the practical farmer, the breeder, the men who can testify to facts which alone can give real and permanent reputation to this race of cattle.—They are now experimentally known in most parts of the United States, at least by their crosses. Many a reader of the American Farmer from Boston to New-Orleans, can no doubt afford creditable evidence of their excellence—aye, and from South America too, where some of Mr. Powel's cattle were sent, might be obtained a history of their success. Is it not saying very much for this peculiar breed, that they unite in an uncommon degree the essential qualities of this kind of animal. This I believe is not questioned by any who are tolerably well informed—no longer then, let the skeptic or opponent doubt their superiority in the material quality of milk giving and butter making, nor their friends desire to overrate them as a family of cattle from the extraordinary production of a few individuals—for it would be inconsistent, even in theory, to demand of them such extravagant dairy qualities, while at the same time they are so pre-eminent for the shambles. My own experience, and that of my neighbors, though limited, is highly satisfactory. The cross, with rare exceptions, is more thrifty, better formed, and approach maturity more rapidly than any others we have ever known—the heifers bearing calves with great success at from 20 months to two years old, and are frequently disposed to receive the bull at from 6 to 9 months old. They have been uniformly docile—coming to the pail without the least restraint. The calves always running with the cow, no experimental and conclusive evidence of deep milking can be offered, further than the quality of the calves. The most indifferent half bred are occasionally killed, and even their skins with the tanner command an advanced price. Their great weight at an early age is sufficient evidence of their decided superiority as a beef breed—their great power and activity ot their fitness for the yoke. The bulls I have raised have been superior in combat (from occasional and accidental trials of their strength at the age of from 2 to 3 years,) to the common breed at 5 or 6, and walk with great speed. Now the most important point to be known by fair experiment, is, whether they can in general sustain the reputation attributed to them.—Reports of extraordinary production in milk, have reached as high as 10 gallons in a family of cows, and to the excess of 12 gallons from an individual even of the half blood. A question naturally arises, if a half blood produces 12 gallons, what will a 3-4, 7-8, 15-16, and finally a full blood produce? But it should be well understood that it can never be intended by any one who has authority for such singular and wonderful reports (not meaning to doubt them) to make an impression that the whole family of shorthorn cows can do likewise; for I am sure that the most zealous advocates for this breed, ought to be satisfied if they can prove that shorthorn cows in general bring double and sometimes treble the milk of the ordinary cows, which do not exceed 2 or 3 gallons per day.

Extraordinary cows are occasionally to be found amongst all the different breeds, but whoever shall attempt to give a character to any particular breed by the selection and high keep of a few individuals here and there, will do the cause serious injury by raising up infidelity even against a reasonable and manifest improvement which undoubtedly has been made, and which is susceptible of further advancement. The true character of the shorthorns, as productive milkers is only to be proved by fair experiments with a reasonable number of them in dairy establishments. Has this been done in any part of our country? The calves have borne such high prices that breeders have devoted their cows to raising them, and have seldom trained them to the use of the dairy—therefore, it is reasonable to infer that justice has never been done a sufficient number of them to ascertain their productiveness. Your correspondent from Pennsylvania has perhaps had a better opportunity to judge of their general merits in their different grades than any other breeder on this side the Delaware or Hudson. Has he been able to form any estimate of the probable average result in milk or butter, from any number of cows, say 6, 8 or 10—and whether he is satisfied that they give milk generally in proportion to their blood—and produce more and better beef? This gentleman assures us, that the part blood, which we may reasonably call the ½ and ¾th, bred by his neighbours and himself, "are uniformly found to be superior and rich milkers," which we presume means an abundance of rich milk—this fact will go further to prove the value of the cross than any we have ever yet heard of—and it is further added, that this improvement is alone ascribed to the shorthorn cross. Now it must not be disguised, that nine-tenths of our farmers (unfortunately for them) in this quarter, have no faith in any changes resulting from this cross, but attribute it to better keep. and superior attention. In order to expel such infidelities, let us exhibit our experience without delay whenever opportunity offers. The honest Pennsylvania farmers, who have had the earliest and best opportunity of testing their merits, are solicited to come forward in such a way as will satisfy the doubts (if possible) of our unbelieving farmers. Let the grade of their cows be stated, the manner in which they are kept—the quantity and quality of the milk as tested by the butter—and any other circumstances worth relating. A number of respectable evidences, coming from a fine farming country, when there could be no motive for a departure from the greatest correctness, would go very far in dispelling the unreasonable doubts on the subject. A Shorthorn Breeder.

AN ADDRESS

Delivered at Northampton, before the Hampshire, Hampden and Franklin Agricultural Society, October 27, 1831. By Samuel F. Dickinson.

(Concluded from page 323.)

3. In promoting the best interests of society, one other subject of increasing moment, requires the consideration of husbandmen: Imprisonment for debt.—This is a relict of ancient barbarism—and to the honor of this nation, in most States of the Union, done away. It ought to be abolished at once: and the debtor who secretes his property, or defrauds his creditor, punished as a criminal, or as a felon.

1. Because it is wrong in principle, a waste of time, and loss of labor. The God of Nature has given us limited control over our offspring; necessity gives a like control over the violators of its laws. But personal liberty is born with every child of Adam, and is unalienable. with the above exceptions. We hold our personal liberty by the same tenure we hold our lives; and we have no better authority for surrendering the one, than taking the other.

2. Because it is unproductive. In nine cases out of ten, enough is not obtained to pay for time lost, and expense of commitment.

3. Because it is impolitic. It drives from the State a large portion of our intelligent and enterprising population; and population is wealth. "These are my riches," said the Roman, showing his children. This is the class most exposed to hazards and losses, on sea and on land. And to this class, the world owes every thing good or great. To this class we owe this great and good land, in which we dwell. To this class civilization owes all the improvements which adorn and enrich the earth. While the money-lender is calculating his interest securely; sucking the life-blood of the borrower; the enterprising man is spreading his canvass to the uncertain winds, or opening new mines of wealth to his country; dignifying the spirit which inhabits mortality.

4. Because it is opposed to the principles of religion. The prophet wrought a miracle to save from imprisonment, by a creditor, the two sons of the poor widow. Our Saviour came "to proclaim liberty to the captives, and the opening of the prison to them that are bound." And, by a parable, he rebuked and severely punished too, the servant who had committed his fellow to prison for debt.

If our state constitution oppose objections to an immediate abolition; then extend the gaol-limits to the bounds of each county. If you dare not kill the law, you may take away its life. A practice like this, in principle, has been sanctioned for thirty years, by the Congress of the United States, in repealing the law establishing the court, when they could not directly remove the judge. The same thing has been repeatedly done here, in the successive statutes establishing new courts of Common Pleas, and Sessions, and repealing the old laws.

There ought to be no delay in this matter. The appeal is distinctly made to husbandmen.

Fourthly. But the husbandman is called to the exercise of higher and more important duties: of a moral and religious character.

Religion and morality, though as distinct in their nature, as the colors of the rainbow; like them are assimilated, and often blended together. I speak of them unitedly, without stopping to mark their distinction. On these depend all our security of property, character, and life. Without their unseen, and controlling influence, the world would become what bad men would have it, a scene of violence and crime. Washington once said, "Of all the dispositions that lead to political prosperity, religion and morality are indispensable." The influence of these should be diffused every where, like the air we breathe; directing, purifying, and controling. To these the civil power, especially in this Republic, owes all its strength and efficiency. These, therefore, the husbandman will cherish, as a duty to himself, his family, his country, and his God. Education, so desirable under other circumstances, without these, is rather to be dreaded than encouraged. Knowledge is power: and power, without moral restraint, carries with it terror. We fear the rage of an animal, wild or furious; the violence of the elements, a tempest or a flood; because they possess power, without moral restraint. We startle at the coils of the serpent; because, though less powerful, he has subtlety: and we fear the highwayman and assassin; because, they possess knowledge without moral restraint. How important, that knowledge be controlled by goodness. Let religion and morality be inscribed on the door-posts of every husbandman.

Of the numerous moral and religious institutions, clustering around, I select three, as worthy of special notice.

First. The observance of the Sabbath.

1. *The sabbath marks an important division of time:* and contributes more to the order and regularity of society, than any other division of time; that of day and night excepted. It also contributes much to cleanliness, and health.

2. *The sanctification of the sabbath, is a religious duty, obligatory on all.* God has commanded, "remember the sabbath day, and keep it holy;" this command is often repeated; written with his own hand; "on a table of stone;" and of enduring force. With a seeming reference to husbandmen, lest they should, on such occasions transgress; this command is *solemnly* repeated, "in earing time and harvest, thou shalt rest." The practice, therefore, of gathering hay or grain, on the sabbath; which has been, by some, deemed a matter of necessity, is without warrant, and against the positive command of him, who is "Lord of the sabbath;" and "of the harvest," also.

Visiting fields, salting cattle, removing them from one pasture to another, and all kinds of labor, are equally forbidden—"thou shalt do no work therein," is the command.

3. *"It is for the interest, as well as the duty of husbandmen to observe the sabbath, and keep it holy."* The keeping of the sabbath prepares the mind, as well as the body, for the faithful discharge of the duties of the week. The experience also of every one testifies; that more labor, or business, during the year, may be accomplished in six days of the week, than in the whole seven. The seventh day is as much designed, and required, for rest; as the night, for sleep. Such is our constitution. On this principle, the Jews were commanded, to let their lands lie uncultivated, every seventh year; and thus keep a sabbath.

4. *No design, formed on the sabbath; or business then done; ever prospers well.* This has been the universal testimony of all good men. If any man will look back on his own life, and examine his own thoughts, he will need no further evidence. Breaches of the sabbath have been *signally punished*, from the days of Elijah, until now. More persons have been drowned, on the sabbath, in New England; than on all other days of the week. The divine displeasure has been as strongly expressed, in other ways.

5. *Nothing is ever gained by laboring on the sabbath.* Even in harvest, it will be generally, if not always found, that the succeeding Monday, although the sabbath be fair, is better suited to secure the labors of the preceding, stormy week.

6. *Our cattle, horses, servants, hired men and women, are to rest on the sabbath; as well as our own families.* "Thou, thy man-servant, thy maid-servant, thy cattle, shall do no work." Let it be remembered that we have no authority over these, on the sabbath; unless for necessity; and this necessity founded on charity. Rest is as necessary, for beast; as for man. We may as justly invade the personal liberty of a fellow-man, on a week day; as impose service on our horses or cattle, on that day of rest. Our authority over them, ceases, on that day. Let it be repeated.

The sanctification of the sabbath lies at the foundation of all religious institutions: they all depend upon it. This is the case in all countries; and at all times. There can be no religion, without a sabbath. France, when she became wiser than her Maker; and abolished the sabbath; recorded the history of that event, with her own hand, in the blood of her best institutions, and best hopes.

Second. Sabbath Schools.

Like all great events, these grew out of small beginnings. Robert Rakes, an obscure, but active christian, in Gloucester, England; witnessing the profanation of the sabbath, by children; was induced to collect together a little company, on that day, as the only time he could procure their attendance; for religious and moral instruction. From this little group, "the school master has gone forth," into all christendom; imparting instruction, and comfort, in all his goings. And now, there are, under this same instruction, in the United States, and other christian countries; 20,000 schools; 170.000 gratuitous instructors; 2,000,000 pupils; and 50,000 hopefully fitted for heaven. Who can suppress the exclamation, "what hath God wrought."

This is one of the most powerful means of "training up a child in the way he should go." It leads to a more thorough knowledge of the Bible. The heathen are devoted to their legends; the Mahometan, to the Koran; the christian only neglects that book, which contains the charter of his liberty. Sabbath schools promote union of sects; as they here have a common object, and cherish among them all a kinder and a better spirit.

Monuments of marble are too cold, to record the blessedness, that shall follow these humble beginnings. Warmer, more sensitive, diviner monuments, the hearts of children, shall tell it to thousands, and millions on the earth; and the record shall be in heaven.

Third. The preaching of the Gospel.

This is the appointed means of diffusing, and perpetuating the knowledge and practice of the christian religion; and deserves the support of every husbandman. There can be no sound morality without religion. Washington said, "both reason and experience forbid us to expect; that national morality can prevail, in exclusion of religious principle."

Every patriot, as well as christian, will feel the necessity of religion, not only in his own heart; but, in the heart of his country. If our government shall continue; it will be owing to the christian religion. All others, in principle like ours, have fallen.

I am not advocating a national religion; or sectarian creed. My heart revolts from both. I would that all christians; who have the spirit of their profession, were united; not only in one communion; but in acts of kindness and charity.

The nineteenth century ought to find no bitterness of sect. The times of stern articles of faith have passed away. Creeds are the bones of religion, and the dry bones too—they have neither muscle, nor flesh, nor spirit.

The divisions, among Christians, are alike destructive of the interests of society; and the vitality of religion. The numerous houses of worship, standing alone, in corners, in the land, as ensigns of their sects, will, ere long, inform the passing traveller, by their grass-grown entrance, that they were erected, to further the views of a party, and not to promote the worship of the living God. There will be charity; there will be union; there will be perfect religious freedom; "where the spirit of the Lord is; there is liberty." Evidence of this is every day, and every where, accumulating. Who gave one authority to decide for another, in matters of conscience? Who would abide the consequences of a wrong decision? Who more confiding in his religion, than the Catholic or Mahometan? Who more surely wrong?

Our Saviour "went about doing good." His religion never fails to show itself in a life of humility, charity, "full of good fruits." It is the humble and contrite spirit, that "in the sight of God is of great price." I had rather be such a Christian, whatever be his colour, or profession; than pillowed on all the creeds in Christendom; or buoyed up on all the prayers, of all the cold sectarians in the land. "By their fruits ye shall know them," said the Saviour of men. And, in the day of account; no book of remembrance records creed, or sect; but "Come, ye blessed, I was hungry, and ye gave me meat;" "Depart, ye cursed; I was hungry, and ye gave no meat;" is the ground of the judgment; and the reason of the separation.

If it should be inquired; why these considerations are specially addressed to husbandmen; the answer is:

They are the great majority of the people, within the limits of this society.

They are the most stable, unmoving, portion of the community.

They are settled on the soil; and their minds and characters possess corresponding stability and strength.

They are, to the body politic, what bones and sinews are, to the animal body.

From this class are mostly selected, Select men, Assessors, Jurors, and Legislators.

The controlling power is with them; in elections, and in most of the affairs of society.

A large share of the public burthen rests on them.

They pay a large portion of the public taxes; for these, their lands, and their homes, by the law of necessity, are pledged, as by a mortgage. All others may avoid; personal property may be secreted, or removed; but the land is visible, permanent. The land-holder is bound to it, by the strongest ties of interest, and attachment. His all is there. And should the time come, when defence of rights, or of country, shall be necessary; the land-holder will be, first and last, in the field.

I address to husbandmen, considerations of moral and religious duty; because, to no class of men are the attributes of Jehovah, so fully or so clearly displayed. Each successive season, each returning day, brings fresh tokens of his power and goodness; each makes new demands on his time and labour, imposes new duties, and increasing obligations; bringing also, its rewards and blessings.

Dependence on God is always in the path of the husbandman, in the field, in the house, and by the way; and humility ought to possess his heart.

He may sow and plant, with care; but not a seed will grow, or a blade of grass vegetate; without the sunshine, the showers, and the dews of Heaven. While growing, his crops are also exposed to frost, and mildew; or, the canker-worm, the grasshopper, the locust, the hail, or the tempest, may be commissioned to destroy them. And, in maturity, when the fields invite the sickle; and the meadows the scythe; without the sun-shine, and the withholding of the rain; the mower and the reaper labour in vain. Dependence is written on every, plant and every falling leaf.

His goodness, though sometimes veiled with clouds, inspires confidence in the promise; that "seed time and harvest shall not fail." It fills the mind with reverence for Him, who controls the seasons; directs the rising and setting of the sun; who gives the rain, and wipes away the clouds: who "holds the winds in his fists;" or, lets them lose, in the tempest.

Is it strange, that the husbandman, rising at the call of the morning star, as he beholds the lifting of the eyelids of the morning;" and listens to the sound of the quail or the robin, resting among his fruit-trees; or perched upon his dwelling?

Is it strange, that the daughter, in all the simplicity of innocence, and in all the bloom of youth; as she returns, at early twilight, loaded from the milk-yard?

Is it strange, that the son, as he returns, at evening, from the wheat field, "bearing his sheaves with him?"

Is it strange, that these all should raise their thoughts to Him, who spread beauty over the face of the morning; and gave serenity to the brow of evening? Is it strange, that these all, feeling the inspiration of devotion, should, involuntarily, join the chorus, breathed out by all the works of Nature around them? The brutes keep not silence. The hovel, the pasture, the hill, the air, are all vocal, in praise. Can man be silent, who alone has the power of speech? And, while surrounded, by this imperishable grandeur, for God is there, he remembers "the tree of life in the midst of the garden;" praise will be, on his lips; and adoration fill his heart.

I address these considerations to husbandmen; because, they are "doing a great work." On them is conferred the honour, of restoring the earth to the order and grandeur of its first creation. They are performing the closing labours of that great week of toil; the six thousand years; and preparing for the approach of the seventh; the sabbath of time, the rest of Nature. And when "all waste places shall become as Eden; and the desert as the garden of God;" then shall the Spirit of the Lord, move over the land, as once, "on the face of the waters;" and the whole earth respond, "it is finished."

Wool.—We have been furnished with a statement, showing the number of pounds of wool, that have been imported into Boston during the years 1829, 1830, and 1st, 2d and 3d quarters of this year.

Imported in the year 1829,	707,242 lbs.
Do, do. do. 1830,	424,589
Imported in the 1st, 2d and 3d quarters of this year,	2,491,846

[*Boston Statesman.*

(From the New York Farmer.)

On the Choice of Suitable Land for Farming.

Mr. Fleet,—The coldness of some land, with excess of water, on which certain kinds of trees adapted to such circumstances, will still grow to enormous stature, preserves their cast-off leaves from decay, the accumulation of which, forms *black muck*, that deceptive covering of the soil, already noticed: or rather of the surface, for such lands, on a close examination, hardly ever have any soil, strictly speaking, or only in patches, in a few places. The sub-soil, is almost invariably hard-pan or clay, neither of which are penetrated by the roots of the trees, which run upon their surface, as they would upon that of a rock. It is a good plan, in selecting a lot of wild land for a future farm, to examine the roots of such trees as have been blown down by the winds, with the ground adhering to their roots. On mucky lands, these will generally be found, on examining what was the under side, while standing, as *flat as a pan cake.* See, also, if the roots of the standing trees are afraid of the ground, extending off horizontally, or whether they stretch downward, deeply buried in the soil, as roots should be.

On warm lands, the dry gravel, the fourth quality, in new countries, and the first in old, or on all warm and dry soils, there is so much warmth, that the leaves are soon putrified, perfectly rotted, forming, at first, vegetable mould, then soil or earth, with more or less of vegetable remains. Hence there can be no carpeting of muck, but a real soil, covering the sub-soil, occupying the surface. In walking over such ground, you never tread on the horizontally extended roots, for they lie deep, exactly the reverse of their position in mucky land; and the trees torn up by the roots, leave a deep pit underneath, from which the roots have brought up the *soil* in this case. When such land is cleared of its trees, you may see the furrows close to the stumps, even so as to tear off the bark with the land side of the plough. It is always a very bad symptom, to find the roots naked, as if afraid of the ground, but this never happens on any but cold and wet land, except on solid rock. Young farmers, themselves inexperienced, would do well to consider the roots, as giving sure indications of the qualities of the land, and that the trees, as to their size, and often as to their kinds, afford little by which to form a correct judgment. The groves of the sugar maple, beech and hemlock, in the northern part of the United States, are, except on some sandy river alluvions, confined to cold and wet mucky lands: while on the Ohio, the beech and maple groves are often found on the very warmest soil, the roots all hidden and deeply buried. Such is the case, also, with other kinds of trees, affecting widely different soils in different climates and countries, in which the altitude has more concern than mere latitude. The white beech, of the north, is a very different tree, however, from the red beech of the Ohio valley, *that* always preferring a cold and wet location, and *this* generally a dry and warm one, where muck is rarely found.

Such, Mr. Editor, is a general outline of the result of my observation and experience, on the selection of suitable lands for farming. By the time of the second generation, and often during the lives of the first settlers of regions of mucky lands, the whole order of valuation is reversed, as above described; and that which, at the first settlement of the country, was esteemed only as of the third or fourth quality of land, comes to be, by general consent, considered the very best, the first quality. If we now seek an explanation of this, the ready answer is; warm and dry soils afford crops much more certainly, being less affected by extremes of all sorts, as of excess of rain, of drought, heat and cold; may be worked earlier in spring and later in autumn; heave less, by winter freezing; and the crops are much less liable to injury by early and late frosts. Take the sum of all these into amount, and it amounts to a very great difference. But, besides all this, warm soils are sensitive to the kind treatment, to the care and skill of the husbandman; and cold and wet ones are not. Mother Earth, like all other ladies, loves a little assiduity of attention, and rarely bestows her bounties without some coaxing. *Warm soils* invite this, but *cold ground* repels all such advances. Hence it is, that, as men, husbandmen, love to be in this humor of coaxing, so a warm soil, by inviting it, makes good husbandry, and is the better taken care of, when made fertile, for having been, in good part, made so, by the assiduity of the cultivator. They who reside on land of the greatest natural richness, even if fertile, or not, rarely use much of this kind of assiduity, rarely are good farmers, or grow fat by farming, fat as farmers, that is, rich in purse and in mind. Men of this cast, who increase in substance by farming, and live as farmers should, are found on this fourth quality of land, now become the first, in all parts of the northern and western states, whatever may be the case with the regions of cotton, rice and the sugar cane.

The richest farmers, then, are not on the poorest land, but on such as, in all newly settled countries, had been thought such. Farming wealth, has thus been made to change hands; and the industrious, hard laboring, and economical husbandman, has succeeded to the enjoyment of what was anticipated, and meant to be secured, to those who had secured the first choice. They called it the "cream of the country," but it has turned out sour milk, or even loppered buttermilk. Travel wherever we may, among the farmers of the Northern and Western states, or in the Canadas, through settlements of 30, 40, 50, to 100 or more years old; from Canada to N. Carolina, along the Atlantic, or the regions of the great Lakes, or through the Ohio Valley, embracing its thousand tributaries, and the truth of these remarks will be confirmed at every step. If such be the case, the vast importance of the subject, proportioned, to the extent of the field, and to the number of persons interested, may well excuse a rather prolonged discussion. It is often a hard matter to correct a single error, or to remedy a single fault, of judgment, or action; and I hazard nothing in saying, that, thousands of actual farmers, men of good standing for sense, too, will be ready to acknowledge their obligations to these summary remarks. I have known farmers, and know such, now, who have fallen into the very common delusion as to black muck lands, and have paid dearly for it, to whom this advice, seasonably given, would have saved many years of regret.

The county of Dutchess, N. Y., now actually one of the most productive in the State, was almost all of this undervalued kind of land, having but very little of the carpeted sort, covered with muck, or of fat clay, or recent river alluvion. What there was, was soon seized, as the cream of the whole, leaving the dry ridges to the slow coming "Interlopers," who have long since enjoyed the cream, leaving the sour milk to their lopper-loving neighbors. The eastern part of Columbia county, also, timbered with oak and chesnut, among which muck rarely is found, consisting of dry "ridges and barren vales," as they were then thought, was like the lands of Dutchess, regarded in the same light.—Some 70 years ago, those lands were "*taken up*," as it was called, on paying a trifling fee of office, and a title was soon acquired, of possession, by occupancy as a farm, and a mockery of a brush-fence inclosure.—Farms, thus acquired, are yet in possession of the families of the first occupants, and good farms, with good titles. Yet all these inducements could not keep the Salisbury men, Yankees, just over the line of "*York State*," from participating in the rage for carpeted lands, the beech and maple and basswood and ash and elm groves of the "*New State*," as Vermont was called.—They sold their farms, in Salisbury and laid out the avails in the mucky wilds of Vermont, much to their subsequent loss, mortification, and regret.

My father, one of those, with several brothers, who had been bred to farming, on *hard land*, sold the old farm, a very large and good one, to become farmers on *soft land*, most abundantly carpeted, "over shoe" in black muck. When first cleared, it produced great crops of grain, or, rather, a great crop, —for it very soon began to wear out, though managed by good husbandry; and in 10, 15, to 20 and 30 years, would produce nothing but grass, coarse, wet-land sedge, or wild grass, because the turf could never be so subdued as to make it take seeding. As to grain, for bread for the family, that we had to purchase from others, after a few years, raised on lands more recently cleared, as the occupants of those lands have had to do, in their turn. Grass, grass, all grass, and yet poor feed, as pasture, or hay. Land that will produce but one kind of product, makes hard living for farmers, like the shingles of Sacandaga. The only resource of the occupants of those lands, now, (who cannot get away,) is the dairy and the raising of young cattle, for the farmers of Dutchess, Columbia and Westchester, living on lands that were never carpeted. Land, moderately moist, and cool, will answer well for dairy and stock-farming, but wet, and cold land, contrasted with warm and dry, as above, makes tough, cold, and sour pasture, or hay, miserable feed, long and sour, like a tedious and ill-told story.

September 17, 1831.

HORTICULTURE.

(From the Library of Useful Knowledge.)

PLANTING.

(Continued from page 316.)

CHAPTER IV.

Of the Soils and Sites most profitably employed in the Growth of Timber; intimate Nature of different Soils peculiarly adapted for the Growth of particular species of Forest Trees.

From what has been said respecting the advantages of judicious planting, the lands and sites most proper for the growth of timber will have been generally understood. There has been a difference of opinion whether land under woods or under tillage is the most profitable and beneficial to the proprietors and the public; the question is similar to that which exists respecting the comparative value of tillage land and permanent pasture, and may be solved in the same manner, viz., that the prosperity, if not the absolute existence, of the one is dependent on the other, and the interests of individuals as well as the public on both. The occupiers of land where woods are scarce, or wanting altogether, and those where they are in too great abundance, will coincide in the truth of this observation. The proportion which woods should bear to tillage and pasture lands in any one district of country depends on the nature of the soil, and the local demand for certain kinds of produce.

There can be but one opinion as to the advantages of planting exposed waste lands, and those that are steep, rocky, or precipitous. The loss to individuals and to the nation, by such large tracts of lands as those now alluded to lying utterly unproductive, is incalculable.

Lands of rather a superior quality to those, or which are accessible to the plough, and the barrenness of which is owing to exposure and ungenial climate, offer great inducements to forest-tree planting. For when the improvement is completed it is, to its extent, so much added to the territorial extent of the empire, in affording the means of sustenance as well as the enjoyment of human life.

Lastly, where the local climate and soil are good, but where, at the same time, a scarcity of timber exists for the periodical wants of agricultural and manufacturing operations, as for the various purposes of buildings, implements of husbandry, fencing, poles, machinery, fuel, &c., planting is of great importance and utility to the community. In many cases, where the soil is of greater value, the planting may be confined to the angles of enclosures, and to hedge-rows.

In this last case it may be necessary to observe, that the land of the lowest comparative value for corn crops, and the most eligible for shelter and shade where required, should be chosen for planting.

When it happens that not all of these peculiarities of soil and site call imperiously for planting, it is proper to consider whether the value of timber or of coppice produce will not be greater from a given space of ground than that of corn or grass. The rent of the land will assist in determining the point, with the local demand for these crops. From numerous estimates of the returns from woodlands, compared to those of corn and pasture lands, under a variety of different circumstances, as to market for the produce, soils and situations, 10*s*. per acre, per annum, of rent is considered the general maximum value of land, above which it ought not to be planted, but retained in corn or grass, and all land which rents under that value affords a very superior revenue under woods or plantations. There are undoubtedly many local circumstances which make exceptions to this rule; as where timber is scarce, or where the demand for certain kinds is unusually great, as in the neighbourhood of mines, hop-plantations, &c. There are instances on record of produce of the value of from 20*l*. to 60*l*. per acre, per annum, being afforded by woodlands. These, however, are extreme cases, and are here mentioned merely to show that exceptions may occur to the above mentioned rule; and that such returns are greater than can be expected from any other kind of crop whatever, particularly considering that the cost of culture, as repairs of fences, cutting down, and perhaps carting, is comparatively trifling to that of tillage and manuring, which every other crop of value besides wood requires.

It may be useful to take a more intimate view of the nature or composition of those varieties of soil which have now been alluded to. It is proper, however, to observe, that the following statements of the nature or constituents of these soils are not intended to convey the idea that they are the best sorts respectively for the different kinds of forest-trees, but principally to show that on such soils these trees have attained to great perfection of growth. The soils were selected from the spots where the trees mentioned in connexion with the soils were found by the writer of this treatise, and the trees were, on an average, the finest of the respective kinds which have come under his observation.

The great importance of precision in the nomenclature of soils, whether in the details of planting or in husbandry, must be so clear and evident to every person who may be desirous to profit by the results of others' experience in these subjects, that it would be superfluous here to add more on the point.

1st.—Heath soil, or siliceous sandy moor soil, incumbent on shale or ferruginous stones, and frequently on siliceous sand of great depth.

400 parts consisted of fine siliceous sand	320
Carbonate of lime	2
Carbonate of magnesia	1
Decomposing vegetable matter, chiefly composed of the decaying leaves of heath	55
Silex, or impalpable earth of flints	11
Alumina, or pure matter of clay	3
Oxide of iron	4
Soluble matter, principally common salt, or muriate of soda	4
	400

The Scotch fir, *Pinus sylvestris*, the birch, and the beech, are found to succeed better on a soil of the above description than any other kind of tree. For the latter, however, it is necessary that the subsoil should be a deep sand. The larch and spruce, under the like circumstances as to subsoil, will also attain to good perfection on heath soil; but where the subsoil is rocky, or impervious to a free circulation of moisture by indurated sand, which is sometimes the case, these last-mentioned trees never succeed; the Scotch fir only maintains its growth.

2nd.—400 parts of poor sandy soil, incumbent on shale, or very coarse gravel.

Fine sand, principally siliceous	360
Impalpable earthy matter, 40 consisting of carbonate of lime	0
Decomposing vegetable matter, destructible by fire	4
Silex, or pure earth of flints	22
Alumina, or pure matter of clay	7
Oxide of iron	5
Soluble saline matters, chiefly muriate of soda	2
	400

The pine, larch, spruce, birch, and sycamore are the most proper for this kind of soil.

3rd.—Sandy loam, incumbent on siliceous sand, containing a large proportion of oxide of iron.—400 parts.

Fine sand, partly calcareous, and partly siliceous	200
Coarse sand	84
Carbonate of lime	6
Decomposing vegetable matter	15
Silex, or the earth of flints	56
Alumina	12
Oxide of iron	5
Soluble vegetable matter, containing sulphate of potash, vegetable extract, and common salt	4
Loss	24
	400

The larch, pine, and fir tribe in general will succeed well on a soil of this texture, although the beech comes to the greatest perfection, or is, perhaps, the plant most profitable to employ in planting soils of this nature, particularly when the subsoil happens to be deep sand, as is the case of the soil on which the celebrated beech trees grow in Woburn Abbey Park. A figure of one of the finest of these trees is given in Pontey's *Forest Pruner*.

4th.—Light sandy siliceous soil, incumbent on a damp, clayey subsoil.

Siliceous sand, of various degrees of fineness	290
Gravel partly calcareous	40
Impalpable loamy matter, consisting of carbonate of lime	5
Silica, or earth of flints	38
Alumina or clay	9
Oxide of iron	5
Decomposing vegetable matter	8
Moisture and loss	5
	400

The oak grows rapidly on this soil, and should constitute the principal timber tree of the plantation.—The sweet chestnut also attains to great maturity in the same kind of soil. The nurse trees most proper are the larch, spruce, and particularly the silver fir. The elm planted on this soil had not attained to the size of the above mentioned trees in the same period from planting, but the timber was considered of a superior quality.

5th.—Clayey loam, incumbent on a clay subsoil.

Coarse gravel, partly calcareous	40
Fine sand	190
Carbonate of lime	16
Decomposing vegetable fibre	14
Silex, or pure matter of flints	90
Alumina, or pure matter of clay	30
Oxide of iron	7
Soluble vegetable extract and saline matters, containing gypsum, common salt, and sulphate of potash	5
Loss and moisture	8
	400

This soil brings the oak to the highest state of perfection. The above results of analysis were afforded by an average sample of the soil of a part of Woburn Abbey Park, where some of the finest oaks probably in England may be seen, excepting those of Lord Bagot at Blythfield Park. The following nine trees grow near together on the soil above described, and are therefore here selected to show the powers of a soil so constituted in the production of oak timber.

Oak No. 1.—The bole or stem measures, in timber, upwards of 50 feet in height, and the limbs extend from the stem 40 feet.

					Circumference.	
					Ft.	In.
	At	3½	feet from	the ground	17	3
	At	10	ditto	ditto	14	6
	At	20	ditto	ditto	14	0
Oak No. 2.—	At	4	ditto	ditto	17	9
	At	7	ditto	ditto	15	6
	At	13	ditto	ditto	13	6
	At	20	ditto	ditto	12	9
	At	35	ditto	ditto	11	4
Oak No. 3.—	At	4	ditto	ditto	13	0¼
	At	10	ditto	ditto	13	0
	At	20	ditto	ditto	12	0⅓
Oak No. 4.—	At	3	ditto	ditto	12	0½
	At	18	ditto	ditto	10	0
	At	66	ditto	ditto	8	0¼
Oak No. 5.—	At	4	ditto	ditto	14	0
	At	20	ditto	ditto	12	0½
	At	56	ditto	ditto	9	0½
Oak No. 6.—	At	3	ditto	ditto	14	4
	At	34	ditto	ditto	12	6

The limbs extend from 40 to 46 feet from the bole.

Oak No. 7.—	At	4	ditto	ditto	12	0
	At	50	ditto	ditto	8	0¼
Oak No. 8.—	At	4	ditto	ditto	13	0½
	At	12	ditto	ditto	11	0¾
	At	50	ditto	ditto	8	0½
Oak No. 9.—	At	3	ditto	ditto	13	0¼
	At	20	ditto	ditto	12	0
	At	48	ditto	ditto	8	0¾

The lowest estimate of timber in these nine trees is 3,200 cubic feet of the very best quality for naval architecture. It is remarkable, that though they must be of a great age, no symptoms of decay appear in the growth of these trees; they are perfectly sound and free from blemish.

6th.—Damp clayey soil incumbent on clay.

Coarse siliceous gravel	60
Fine sand	120
Vegetable matter, destructible by fire	9
Carbonate of lime	15
Silica, or earth of flints	130
Alumina, or pure clay	48
Oxide of iron	10
Soluble saline matter, with vegetable extract, and gypsum	8
	400

The oak, elm, ash, and hornbeam attain to greater perfection here than any other kind of forest-tree. The tulip tree (*Liriodendron tulipifera*) grows freely on this soil when it is properly prepared by trenching. The Norway spruce, pinaster, and Weymouth pine appear to be the only species of the resinous tribe of trees that make tolerable growth on a soil of the nature above described.

7th.—Fertile peat moss, incumbent on clay or marl.

Fine siliceous sand	231
Undecompounded vegetable fibre	13
Decomposing vegetable fibre	57
Silica, or impalpable earth of flints	50
Alumina, or pure matter of clay	18
Soluble matter, principally vegetable extract	4
Oxide of iron	2
Moisture and loss	25
	400

This variety of peat soil when prepared for planting by draining off the superfluous moisture, with which it is found almost always saturated, is capable of growing very profitable trees, as the birch, abele, poplar, willow, and even the Scotch fir. A piece of ground of this nature, prepared by cutting open drains at such distances from each other, as to leave a sufficient breadth or body of earth to retain a due proportion of moisture in dry weather, and yet prevent saturation of moisture in the wettest weather, was planted with a variety of trees. The trees above mentioned succeeded remarkably well, and made an improved return of a hundred per cent. in comparison to that afforded by the natural produce of the surface. The following variety of peat, which is not uncommon, is to be carefully distinguished from the above:—

8th.—Inert peat soil.

Fine pure siliceous sand	29
Inert vegetable matter destructible by fire	289
Alumina	14
Oxide of iron	30
Soluble vegetable extractive matter, sulphate of iron, and sulphate of potash	11
Sulphate of lime	12
Loss and moisture	15
	400

The outward characters or appearance of this soil is so similar to those of the first-mentioned variety of peat, that they are scarcely to be distinguished by common observation. The above soil, in its natural state, is absolutely sterile. Large applications of caustic lime and of common salt, in a smaller proportion, had the effect of improving the nature of this soil so much, as to render it capable of vegetating turnip seed, and of bringing the roots to the size of small turnips. It has not been proved, however, what the results of planting forest-trees might be on this soil, improved in the manner now stated.

9th.—Chalky soil, incumbent on chalk-rock.

Calcareous sand	280
Carbonate of lime	60
Decomposing vegetable fibre	5
Silica	28
Alumina	10
Oxide of iron	8
Vegetable and saline soluble matters	4
Moisture and loss	5
	400

The beech, ash, and oak thrive better on a soil of the above composition, than any of the resinous or fir species of trees.

10th.—Rich alluvial or marsh soil, on the estate of Lord Saye and Sele at Belvidere, near Erith, in Kent, situated partly below and partly above the level of the river Thames.

	Grains.
Fine sand	98
Aluminous grit or stones	68
Carbonate of lime	15
Decomposing animal and vegetable matter	40
Silica or impalpable earth of flints	115
Alumina or pure matter of clay	32
Oxide of iron	12
Sulphate of lime or gypsum	3
Soluble vegetable extract and saline matters, giving indication of not more, or rather less, than the usual quantity found in soils generally of the muriate of soda or common salt	6
Moisture and loss	11
	400

This soil had the character in the neighbourhood of being incapable of growing any kind of tree: it was supposed to contain an excess of common salt. The Hon. Twisleton Fiennes has put this interesting question to the test of trial. We examined this soil chemically as above, and found that common salt entered but little into its composition. The stagnant moisture with which it was surcharged appeared to be the chief, if not the only defect of the soil. The subsoil in part is peaty and incumbent on a clayey marl. A large open drain was made so as to command the water in the space set apart to be planted. The ground was properly trenched and thrown up into broad ridges, as before recommended in this treatise, with secondary drains between each ridge, communicating with the principal one. The ground was planted with a numerous variety of trees for the purpose of experiment. The results now obtained show that the poplar (*Poplus nigra,*) willow (*Salix alba et Russelliana,*) elm (*Ulmus montana,*) sycamore (*Acer pseudo-platanus,*) ash (*Fraxinus excelsior,*) alder (*Alnus glutiosa,*) locust (*Robinia pseudo acacia,*) birch (*Betula,*) oak (*Quercus robur,*) horse-chestnut (*Æsculus hippocastanum,*) Spanish chestnut (*Castanea vesca,*) hornbeam (*Carpinus betulus,*) lime (*Tilia eur pœa,*) spruce fir (*Pinus abies,*) with dog-wood (*Cornus coccinea,*) privet (*Ligustrum vulgare,*) holly (*Ilex aquifolium,*) and hazel (*Corylus avellara,*) as underwood;—these different species of trees have succeeded in the order nearly as they have been enumerated, the first eight-mentioned sorts having, up to this period, a decided advantage over the others. The hon. Mr. Fiennes purposes to continue and extend this interesting investigation; the results of which will decide the question, which is one of importance to the owners of soils of this nature.

Of the above varieties of soils, if we except the sandy loam No. 3, and the clayey loam No. 5, there is not one which, on its natural site, could be profitably cultivated under corn or green crops, but which, by skilful planting, might be made to return considerable profits to the owners, and also to the public the many advantages which judicious planting always confers.

Although there may be found shades of difference in the proportions of the constituents of soils receiving the same designation, such, for instance, as the poor sandy soil, containing ten per cent. more or less of sand in one situation more than another, yet the actual produce of timber, all other circumstances being equal, will be found to vary but little, if any. But where the difference in the proportions of the ingredients is found so great as exists between the sandy loam No. 3, and the poor sandy soil No. 2, or, in a wood as between any two of the soils now attempted to be described from practical experience in their culture, as well as from a careful chemical examination of their properties and constitution, a very marked and decisive difference will be found in the comparative produce of timber, and in the peculiar species or kinds of trees which should have been planted in the greatest number, or in preference to others.

(To be continued.)

(From the Florida Intelligencer.)

THE GRAPE VINE.

Plantation—Cultivation.

The vine planted in any way will grow well for a certain time, but when arrived to the time of fruitfulness it will either reward the attentive and careful, or disappoint the uninformed or negligent. Here is an example of this:—In Greene county, a French colonist sold to one of my American friends a tract of land on which he had planted a vineyard of several acres, which grew well and luxuriantly for the three first years; after which period, the vineyard declined, the vines dying yearly. I was requested by my friend to go and see his vineyard. I found his vines parched or dried up by summer heat; I pulled or dug up some of these, and even some of the living and discovered they had been planted as one would plant sallads or cabbages, and I supposed they were merely small cuttings stuck in prepared ground. Since, my friend replanted his vineyard which is now in good order. The reason of this appears to be, that, as long as the vine is not fruitful, it grows freely, and apparently requires much less moisture than after four or five years. In order not to meet with disappointment, is it not advisable to do things properly at once?

After selecting a suitable piece of land, as to soil and exposition, break it up well and deep, by several ploughings. It will much facilitate the plantation, and the ground so broken, divided or pulverised, will offer no obstacles or opposition to the quick growth of the roots of young vines. If a piece of land in its primitive state, and naturally poor, should be destined to become a vineyard, it would be well to manure it, and sow small grain in it for a couple of years. This preparation will greatly enrich the soil, which will then be in excellent condition for planting. Manure, when fresh, is contrary to the vine and the good qualities of its produce, but when spread so beforehand, it communicates none but its good effects to the vine, as it has freed itself of the excess of its carbonic acid, and is no more, as it were, but vegetative ground combined with the soil that contains it.

The land must be laid off with regard to the nature of the plants selected: the distance must be proportional to the growth of the plants. The Madeira and Persian must be planted at distances of fifteen to twenty feet from row to row, and ten in the row, on straight lines in every direction, to facilitate ploughing. Mark these rows with small stakes; open ditches with the plough in the direction where the stakes are farther apart, in order, that, when arbours are built up, in the direction where the vines are nearer, the body of the vines and their roots, extending in the space between rows, may always receive the benefits of the plough. Throw on one side of the ditches, with shovels or hoes, this first ground loosened; run the plough again in these ditches until arrived to the depth of eighteen to twenty inches, and throw this other ground on the other side of the ditches. Pass through the vineyard in this way, then square it off again with stakes calculated to last two or three years, or until the vines may require framing. Throw in the ditches three or four inches of the surface ground that was put on one side of the ditches and they are prepared to receive the plants, which are either cuttings or vines with roots. The cuttings must be four feet long, well chosen, well matured—cut on vines that have borne, the fruit of which is known. No tops of stems should be employed; therefore, if we desire four or six cuttings from a vine of common size, it is sufficient. In case of necessity the tops might be planted in nurseries, but it is seldom a proper measure to succeed or advance in procuring soon the plants needed. Having already taken the plants with roots in consideration, we will say nothing further about them. These plants of either description must be laid in the ditches, the tops tied to their stakes with suitable ligaments, as lynn-bark, hemp, osier, &c. calculating to leave but one or two eyes out of ground, then bend the plants to the base of the stakes so as to form a right angle, and putting the foot on the vines draw enough surface ground on them to oblige them to keep this position; afterwards fill up the ditches with hoes or shovels. There is another way of planting the vine which is perhaps more expeditious—observe the above instructions, mark holes to the stakes three to four feet long, by 1½ to 2 wide; dig them with grubbing hoes, observing particularly to make them within the spaces of the rows intended to be framed, as the bodies of the vines should in every respect be so situated as to be ploughed over.

Table Grapes are commonly destined to grow on bowers, in a yard around the house, or in avenues; therefore they can be planted to suit fancy. The generality of vines imported from France into this country, grow slow, remain thin, and never form a large foliage; their weight is little, in consequence of which they require no framing or arbors, but simply small stakes six or seven feet long driven in the ground when necessary; at the head of each vine, or in the opposite direction in which the roots of the vine run. They must be planted at distances corresponding to their nature, four, six or seven feet apart on straight lines in every direction. A few of our indigenous vines require these narrow distances in their plantation. Although these spaces may appear small, many yearly plants may be grown in them, such as vegetables, beans, &c. they are large enough to admit the rays of the sun, and bring to maturity what may be contained in these spaces.

In Provence there is a kind of vine which we generally call the Marsellies, which requires no arbors, props, or stakes, and thereby saves trouble, time and expense. It is knotty, uneven, and the distances between eyes short; it is firm and has a pyramidal form, and the strongest winds never blow it down. There, it produces considerably, here it is very indifferent. However, if it were tried in some other latitude and soil of our States, it would perhaps succeed—its produce is claret.

The vine should be planted within the time of triming, that is to say, from January to March. Nevertheless, it is proper to begin the preparation of the lands at any other time, the fall for instance.

Young vineyards require but little work and no expense, except that of planting. During the three or four first years, the land may yield almost any of the common productions of the country, without the least injury to the vines; provided, however, no such productions be planted or sowed nearer the rows than four feet, except small grain, such as wheat, oats, barley, &c. It is necessary to give vineyards two deep ploughings a year, and keep them clean, to tie up to the stakes or arbors all the limbs or stems that may fall and lay on the ground during the spring, summer and fall. It sometimes happens in this country that the rains of March impede ploughing; in this case the vines must be opened at the roots around the stock, to the depth of two to three inches, and the superficial roots that have grown through the summer cut off close to the stock. This should not be neglected, as these roots readily receive the influence of the atmosphere, making the vines put forth sooner than they would otherwise, and thereby expose them to the late frosts. Where ploughing is practicable, turn the ground from the vines and follow the rows with a pruning knife, cutting all the roots uncovered by the plough. After a few days, plough once more and hill up the vines.

CORNEILLE ROUDET.

Greene County, Florida, Nov. 12th.

(From the New England Farmer.)

CANKER IN FRUIT TREES.

A paper on this subject has been read before the Caledonian Horticultural Society, by Mr. Peter Campbell, gardener at Coalston, in which this experienced gardener gives it as his opinion, that the cause of canker in fruit trees is a stintedness of growth that takes place from a bad subsoil, and the ground not being properly prepared before the fruit trees are planted. An experiment he has tried, proves, he says, to be an effectual cure for that disease, so far as he has hitherto experienced. There were upwards of seventy espalier fruit trees taken with canker, that had entirely given up bearing; twelve of them had only been about twelve years planted. The soil these trees grew in, was of a sandy nature, and was formerly a bog full of springs, with veins of black sand about eighteen inches below the surface. By examining the roots that went down into these veins of black sand, they were found to differ from the other roots, and some parts were quite swelled and overgrown, compared with other parts of the same root, so that it had more the appearance of a tuberous than a fibrous root, and the wood itself was very seriously injured in the interior. He instantly proceeded to clear away the soil from the roots, with care so as not to injure them, first to the distance of three feet from the trunk of the trees all round, and afterwards as much under the trunk as could be got out; he cut off the tap roots that went right down, and also all the roots that were diseased, and proceeded to clear away the soil another foot round the tree; a layer of bricks, &c. being laid on the bottom, he then filled up the hole with good mould mixed with rotten cow dung, beating in every course below the trunk of the tree with a beater made for that purpose. He then proceeded to prune off the tops of the trees, not leaving a branch nor bit of wood that had canker in it on any of the trees. By this treatment, he says, the trees are become quite healthy, and free from any moss or lichen, and without the least appearance of canker.

(From the New England Farmer.)

Watering Fruit Trees with Soap Suds.

Mr. Fessenden,—If the following facts are worth publishing in your valuable paper, the whole or any part of them are at your disposal. In the spring of 1828, I purchased (as I supposed) a number of English cherry trees, which were in 1830, pronounced by good judges to be mazzards. As the trees had been set out two years, I felt unwilling to cut them down. In August, I had them inoculated. Seeing a statement, I think, in the New England Farmer, about that time, or previous, that soap suds was valuable for watering fruit trees, I accordingly began by watering one of my cherry trees. I found in a few weeks, the buds which had been put into the tree began to grow, and continued to grow until the frost came; while the buds in my other trees remained as they were. I began last spring to water the remainder of my cherry trees, which I continued to do through the summer. I have been well paid for fifteen minutes each week, thus employed. My trees have grown more the summer past, than they have for three summers before, and now each tree has six branches, from three to five and a half feet in length, besides many side branches; all growing from what were last spring mere buds. I am satisfied, that trees watered weekly with suds, or sink water, may be brought to maturity in half the time that usually occurs.

A Constant Reader.

Manchester, *Ct. Dec.* 15, 1831.

RURAL ECONOMY.

(From the New England Farmer.)

LEAVES OF THE WILD CHERRY.

Mr. Fessenden:

Sir,—I noticed in your useful paper of the 14th two communications respecting the poisonous quality of the leaves of the *wild cherry*, and felt a degree of alarm at the determination of one of the gentlemen to cut down and exterminate every tree and bush under that name, while I was carefully preserving some in my garden for its valuable medicinal virtues. I have given a strong decoction of the twigs of the wild cherry tree again and again, to men, women, and children, with the happiest effects, according to the indications. Nevertheless Mr. Prince and Mr. Tully may be right in their denunciation of the wild cherry tree as it regards sheep, especially if they mean the *Prunus lauro cerasus*, while I mean the *Prunus virginiana*. The fruit of both of them are used indiscriminately, in making that common *sleighing-dram, cherry rum*, which men and women may partake of at this cold season without risk of dying the death of a sheep, and that as a rare and innocent luxury.

For diarrhœas, and in certain stages of protracted dysenteries, I have never found a better remedy than a decoction of the branches of the wild cherry tree in summer, and of its roots in the winter. I am therefore anxious that it should not be condemned and executed without a fair trial.

It is true that the twigs, leaves, and roots of the same tree have often differing qualities, and give out their *quintessence*, or essential medicinal qualities, some more to hot water, some to spirit and some when taken in substance into the stomach in form of powder; the last of which may be deleterious, and the others not. Again, some quadrupeds can feed on some plants, that others turn from with aversion; as the goats will eat hellebore, which scarce any other animal will touch. All eschew tobacco except man.

I wish some gentlemen of leisure and scientific discrimination would make a series of experiments to determine facts respecting the two species or rather varieties of the wild or indigenous cherry tree. I say *indigenous*, because if you burn down a lot of trees of any sort, the wild cherry most frequently grows up from out the ashes. Besides the native cherry tree is next to our maple the handsomest wood for the cabinet maker; it is the New England mahogany.

Mr. Tully speaks in commendation of the common plaintain as a speedy remedy in sheep poisoned by the wild cherry. If by *common* plantain he means the *Plantago lanceolata,* there is not in the whole materia medica a more universal *alexipharmic* or counter poison, than the common plantain, growing every where about our yards and barns: if applied to to the poisoned sores made by the stings of the bee, wasp, or hornet, it surprisingly soothes the anguish and diminishes the angry swelling. Some have said in print, that where the toad is bitten by any venomous reptile or insect, he straightway has recourse to the leaf of the common plantain. "*Make experiments,* and *observe nature,*" says Lord *Bacon,* and so says your humble correspondent, B. W.

Cambridge, Dec. 17, 1831.

MISCELLANEOUS.

FAT CATTLE.

It is impossible to ascertain at what time the people on Connecticut river began to fatten oxen in the stall for the Boston market. The first notice on record, that we have observed, is a vote of the town of Hatfield in August, 1703. In taking the list in the spring preceding, fat cattle were included; this, it seems, was a subject of complaint, because the cattle were driven to market soon after the list was taken; the town therefore voted not to include them. It is evident from this vote that a considerable number of oxen were stall-fed in Hatfield at that time.—The business must have been commenced in that and other towns some years before—probably as early as 1690, or 140 years ago. The first notice in Northampton is in the inventory of the estate of Nathaniel Dwight, March, 1712; it includes four fat oxen, besides several yokes of working cattle. After this, fat oxen in the spring are noticed in Hadley, Deerfield, Westfield, &c. In 1724, three fat oxen belonging to the estate of Benjamin Lyman, Northampton, were appraised at 12 pounds each. In February, 1729, Samuel Clark, (father of the late Benjamin Clark) sold six fat oxen for 20 pounds each; and in March, 1730, his neighbour John Baker, sold six oxen at the same price. In March, 1732, Jonathan Strong, John Miller and Joseph Hawley, (father of Maj. Hawley) sent each a yoke of cattle to Boston. Mr. Hawley's oxen brought 45 pounds, and the others a less price. In March 1729, Doct. Thomas Wells of Deerfield went with a drove of fat oxen from Deerfield to Boston; he was gone 10 days, charged *4l.* 15*s.* for his expenses and services. The money in circulation at that period was a depreciated paper currency, called bills of credit. The 45 pounds for which Mr. Hawley's cattle were sold was not probably worth more than 45 or 50 dollars in silver. We are thus particular, in order to show that stall-feeding cattle was a business of some importance in the towns on Connecticut river, more than 100 years ago. It has been much extended since, and it is believed that the farmers of Hatfield now stall-feed three times as many oxen as were fattened in all the towns in Old Hampshire 100 years since.

In 1731 there were only eleven towns in the county of Hampshire, viz. Springfield, Northampton, Hadley, Hatfield, Sunderland, Westfield, Deerfield, Northfield, Brimfield, Suffield and Enfield; the two latter are now in Connecticut. There were settlements at Cold Spring (Belchertown) the Elbows (Palmer) and some other places.—*Hamp. Gaz.*

Liverpool and Manchester Rail Road.

The first year of travelling on the Liverpool and Manchester railway has expired—during a part of the time, however, there was not full accommodation for either passengers or goods, yet it seems that 416,000 persons have travelled its whole distance, and about 34,000 persons short distances—a total of 450,000—and whose fares reach 99,600*l.* sterling—a prodigious sum. The exact sum produced by the carriage of goods is not ascertained, but it is estimated at 90,000*l.* This is surely a convincing proof of the utility of Rail Roads, and the favor with which they are regarded by the community. In this country we have no doubt they will prove as profitable and popular.

Cheap Method of Catching Mice.

Sink bell glasses level with the earth; fill them half full of water; put a little oat-meal over the water in the glass, and a little over the earth about the outside of the glass, "to decoy them to a watery grave." Cover the glasses with straw during winter, to keep the water from freezing.—*Loudon's Mag*.

THE FARMER.

Baltimore, Friday, Dec. 30, 1831.

We are much indebted to Dr. Muse for his excellent article on the Hessian fly. It is only from experiments such as he has instituted, and the publication of their results, that we can hope for a remedy for any of the evils to which agriculturists are continually subject. If similar experiments were instituted with other insects, we have no doubt much good would result from them.

A Suggestion.—As this is generally a season of leisure to agriculturists, we would suggest that an hour or two might be profitably employed in recording some of the many observations they may have made during the past season for publication in the Farmer. There is not a farmer or a planter in the United States but could thus add something useful and valuable to our stock of agricultural knowledge. If all our subscribers would do this, the observations of the whole would soon be in the possession of each, and thus their own contributions would return to them with several thousand per cent. interest. Is not this suggestion worthy of consideration?

To Dr. M Burrough, Philadelphia:

Sir,—The Agricultural and Horticultural Society of India have directed me to request your kind attention to the present circular.

The society are convinced that the freest possible exchange of the natural productions of every country will be found in the end most conducive to the prosperity of all; and guided by these principles, they desire to offer both to societies and individuals in every quarter of the globe, any of the agricultural and horticultural products of India, or any information relative thereto, which may be desired, in exchange for such as may be forwarded or communicated to them. It will be most gratifying to the society, if you can point out to them any desiderata which can be supplied from India, or if you can by any means forward to them seeds, plants, useful communications or suggestions. The society will feel much obliged by your giving every publicity in your power to this communication.

I am, sir, your obedient humble servant,
Henry Piddington,
Foreign Secretary, Agricultural and Horticultural
Society of India.

Calcutta, June 15, 1831.

P. S. The society recommend packing seeds in bottles, with one half fresh burnt and perfectly dried charcoal, in powder; and will be happy to pay any expense that may be incurred.

FOREIGN MARRETS.

Liverpool, 31st Oct., 1831.

There is not any demand for Cloverseed, the price of which is nominally 55s. to 60s. per cwt.—New Flaxseed is expected to be worth 60s. per hhd., but the price will be very much regulated by the extent of the supplies, of which an estimate may be formed at the shipping ports.

The stocks of cotton in the whole of Europe are moderate, when they are compared with the rate of consumption, and a large portion of them are held in Liverpool; the spinners and dealers, with but few exceptions, hold, we think, less than their ordinary stocks. With reference to the supplies that may be received in the next year, we remark, that the accounts received from the United States leave an impression that the crops, will be less productive than they were in the last, and probably not materially different. From the Brazils, Egypt, and the East and West Indies, it may be assumed that the imports in the next year will not altogether, vary much in amount from what they will be in the present. The extent of the consumption of cotton in the next year, will be very much influenced by the degree of quiet and confidence that may exist in this country, and until the great question, to which we have adverted, is settled, we again advise a more than ordinary degree of caution to be exercised in the shipments that are made to it.

The potatoe crop is an abundant one, and the prices throughout the country lower than they have been for some years past.

Liverpool, 7th Nov. 1831.

There continues a limited demand for cotton; the sales on Saturday and to-day were abuut 3060 bales, at former prices.

Corn Exchange, Nov. 8.—On Friday, and again on the subsequent day at Manchester, 1d. to 2d. per 70 lbs. reduction on wheat was acceded to, the finest parcels of Canadian being the only exception: these have become scarce, and, as well as United States' flour, are held for very full prices. Oats and oatmeal have fully sustained previous rates; for the former there is still a speculative inquiry, otherwise the demand from the mealmen is not lively. More business has occurred in Indian corn; several hundred quarters have been taken for shipment coastwise. Though little business has occurred in lock corn or flour, holders appear to have more confidence in these articles and less inclination to show samples. One large parcel of St. Petersburg hard was sold yesterday at 6s. per 70 lbs. The quantity of either wheat or flour on the market is very inconsiderable.

To-day's market was pretty well attended, and a fair amount of business transacted in new wheats, but the quantity offering much exceeded the demand, and prices must be noted fully 1d. per bushel below the rates of this day week. No change in the value of old wheat. There was less inquiry for oats, and they were offered ½d. to 1d. per 45 lbs. cheaper.

London Corn Exchange, *Nov.* 7.

In the course of last week there was a tolerably good arrival of corn vessels, which brought a moderate quantity of most descriptions of grain and a large supply of flour. This morning the market was thinly supplied with fresh samples of all kinds of corn. The wheat trade is rather higher for fine parcels. The best parcels of barley, for malting, were again rather dearer. The flour trade remains as last stated; but some millers will not sell unless in proportion to 65s. being the top price.

Prices Current in New York, Dec. 24.

Beeswax, yellow 18 a 19. *Cotton*, New Orleans .10 a .11½; Upland, .7 a .10; Alabama, .8 a 11. *Cotton Bagging*, Hemp, yd. 14½ a 17, Flax 13 a 14½; *Flax*, American, 7 a 8.——*Flaxseed*, 7 bush. clean .—— a —— *Flour*, N. York, bbl. 6.25 a ——; Canal, 6.75 a 7.00; Balt. Hwd.st. 6.62 a 6.75; Rh'd. city mills —— a 6.75; country, 6.50 a ——; Alexand'a, 6.50 a 6.75; Fredericksburg 6.37 a ——; Petersg. —— a ——; Rye Flour, 4.75 a ——; Indian Meal, per bbl. 3.50 a ——; per hhd. 16.25 a 16.50; *Grain*, Wheat, North, —— a ——; Vir. 1.16 a 1.20; Rye, North, — a 90; Corn, Yel. Nor. — a —; Barley. 1.28 a 1.31; Oats, Sth. and North, .60 a 68; Peas, white, dry, 7 bu. 5. Beans, 7 bu. 7.00 a 8.00; *Provisions*, Beef, mess 7.50 a 8.50; prime 5.25 a 5.50; cargo —— a ——; Lard, 9 a .9¾; Pork, mess, bbl. 12.25 a 13.25; prime 10 00 a 11.25.

GARDEN SEEDS.

A full supply of fresh garden seeds for sale at the office of the American Farmer. Also, Aracacha roots, Quinoa seed and Buffaloe Berry trees.

GIDEON B. SMITH.

RAPE SEED.

A small quantity of fresh Rape seed just received, for sale by the subscriber.

BULBOUS FLOWER ROOTS.

The subscriber has for sale a small but elegant assortment of Tulips, early double and single Van Thol, and common kinds; Crown Imperials and Persian Fritillaries; Polyanthus narcissus, yellow and white fragrant; Yellow fragrant and White fragrant; Double and siogle fragrant Jonquils, &c.

A few of his splendid collection of new Pæonies and Hemerocalises yet on hand. GIDEON B. SMITH.

TO THE PUBLIC.

Having assured my friends and patrons that should I ever find it necessary to lower the prices of my PLOUGHS, that I would give public notice thereof, that every gentleman may know the price he will be charged before he sends his orders—I therefore submit the following reduced prices to the public, which will be my charge from the date hereof.

Balt. Sept. 17, 1831. J. S. EASTMAN.

No. 6	a small Seed Plough,	$4 50
7	also a seed do.	5 00
7	improved and a heavier Plough,	5 50
7	Bar Share for stony land,	6 00
8	one or a small two horse Plough,	5 50
8	large size improved small 2 horse do.	6 00
8	Bar Share for rough soil,	6 50
9	small 2 horse Plough, called the poney do.	7 00
9	large size heavier Plough improved,	7 50
9	Bar Share Plough for rough soil,	8 50
	Sword Coulter for the same $1 50.	
10	a large 2 horse or small 3 horse plough,	9 00
10	Bar Share for rough soil,	11 00
	Sword Coulter for the same $1.75.	
12	a large three horse Plough,	14 00
	Sword Coulter for the same $2.00.	

For sale improved Barshare Plough, and the Scotch Plough improved by Geo. Glezy, together with his usual assortment of AGRICULTURAL IMPLEMENTS and Grass Seeds. He has also received by ship London Packet, a fresh assortment of GARDEN SEEDS, which are believed to be of superior quality. J. S. E.

BALTIMORE PRICES CURRENT.

Baltimore Market. Howard street flour remains as before, but an advance is expected in consequence of a rise in the New York market. We could hear of no transactions at rates above our quotations, however, before our paper went to press. Wagon price $5.00 a $5.12½. Corn, rye and oats have advanced in consequence of supplies having been cut off by the close of navigation. Beef has declined—the supplies being greatly above the demand. Drove pork, $5.50 to $5. Family pork $5 a $5.50.

Tobacco.—Seconds, as in quality, 3.00 a 5.00; do. ground leaf, 5.00 a 9.00.—Crop, common, 3.00 a 5.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 10 00; yellow and red, 8.00 a 14.00; yellow, 14 00 a 16.00.—Fine yellow, 16.00 a 20.00.—Virginia, 4.00 a 5.00.—Rappahannock, 3.00 a 4.00——Kentucky, 3.50 a 8.00. The inspections of the week comprise 7 hhds. Md.; 25 hhds Ohio—total 32 hhds.

Flour—best white wheat family, $6.75 *a* 7.25; super Howard-st. fresh 5.25 *a* ——; city mills, $5.00 *a* 5.12½ *a* ——; Susq.— *a* —; Corn Meal bbl. 3 50; Grain, Md. red wheat, 90 *a* 1.08; white do. —— *a* ——, Susq. —— *a* —Corn, white, 63 *a* 65—yellow 63 *a* 65—Rye, 84 *a* 85—Oats, 40 *a* 45.—Beans, 75 *a* 80—Peas, 65 *a* 70—Clover-seed 5.00 *a* 5.50—Timothy, 2.50 *a* —— Orchard Grass 1.50 *a* 2.00—Tall Meadow Oat Grass 2.00 *a* 2.50—Herd's, 75 *a* 1.00—Lucerne — *a* 37½ lb.—Barley,—Flaxseed 1½ *a* 1 5-8-Cotton, Va. 8 *a* 9-Lou. 9 *a* 12—Alab. 8*a*. 10—Tenn. .8 *a*. 9; N. Car. 8½ *a* .9½—Upland 8 *a* 10—Whiskey, hhds. 1st p. 27½ *a* 28; in bbls. 32 *a* ——Wool, *Washed*, Prime or Saxony Fleece 49 *a* 57; American Full Blood, 47 *a* 55; three quarters do. 41 *a* 47; half do. 35 *a* 41; quarter and common do. 32 *a* 35. *Unwashed*, Prime or Saxony Fleece, 30 *a* 34; American Full Blood, 27 *a* 30; three quarters do. 25 *a* 27; half do. 22 *a* 25; quarter and common, 19 *a* 21——Hemp, Russia, ton, $245 *a* –; Country. dew-rotted, 5½ *a* 7c. lb. water-rotted, 7 *a* 9c.—Feathers, 37½ *a* —; Plaster Paris, per ton, 4.75 *a* —, ground, 1.37½ *a* — bbl. Iron, gray pig for foundries per ton 33.00 *a* ——; high pig for forges, per ton, 28.00 *a* 30.00; bar Sus. per ton, 72.50 a 80.00.—Prime Beef on the hoof, 3.25 *a* 4.25—Oak wood, 5.00 *a* 6.00—Hickory, 6.50 *a* 7.00.

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AGRICULTURE.

Second Prize Essay, Agricultural Division.

CULTURE OF INDIAN CORN.

Mr. Smith: *Dresden, Ohio, June* 1, 1831.

Indian corn being an important production of our soil, and extensively grown by our farmers, it is desirable that we should attain the mode of cultivating it, at the same time most easy and most productive. To contribute something to this end I shall make some observations on the best mode of cultivating this grain, and point out some errors into which I conceive many of our farmers have fallen with regard to it. To ascertain the proper mode of culture for any plant it is necessary to examine into its nature and qualities, and the kind of soil to which it is best adapted, and we should proceed accordingly. The want of proper attention to this rule has produced much wild theory and bad practice in agriculture. The corn plant requires a loose alluvial soil to bring it to its greatest perfection, we should therefore in preparing ground for its reception render it as light and mellow as possible, ploughing as deep as the nature of the soil will admit; harrowing the ground previous to planting is advantageous in hard cloddy soils, but is not generally necessary. The seed should be deposited in furrows struck as deep as the ground is ploughed, and lightly covered with loose earth; if too much earth is thrown upon it there is danger of its rotting in cold wet weather, which sometimes succeeds the season of planting. By this mode of planting the plants are more firmly fixed in the earth, the roots striking deep draw a greater supply of nourishment to support them, they are likewise more secure from drought which often proves very destructive to the corn crop, the stalks will not generally grow as tall as those which are planted superficially, but are thicker and stronger and produce larger ears. The best process of cultivation is, that which will preserve a level surface, and most effectually destroy the weeds. This is most effectually done by drawing a large harrow over the rows, (the depth of the furrows will preserve the plants from injury,) the weeds should be carefully removed, and the furrows filled up around the plants as they become large enough to bear it. If this operation is well done, (and much of the success of the crop depends upon its being so,) one ploughing will be sufficient; in doing this the earth should be thrown to the corn, but care should be taken not to ridge it, which is very injurious, as it carries off the rain from the corn which requires a plentiful supply of moisture, especially when earing.

Many farmers pursue a quite different course, just skiming the surface, and planting their seed almost on the top of the ground; the consequence is that the roots, unable to penetrate the hard earth beneath, afford but little sustenance to the plants which run up spindling, and being often exposed to drought yield but a scanty crop; this may be often seen by examining the outer rows of corn where the ground could not be well ploughed. What seems to have led to this practice is the cultivation of new ground where it could not be ploughed deep, the strength of the soil produces abundantly with any kind of culture. The superficial farmer continues skiming the surface until it becomes exhausted, when supposing the land worn out he abandons it to wiser cultivators.

Another error which some practice is so absurd as almost to carry with it its own confutation, this is to plough so deep as to cut and mangle the roots of corn with the idea of making it produce better. This causes what is called fired corn, that is, the blades wither and die before it is fully ripe.

Though I conceive the above observations to be supported by reason, they are somewhat the result of experience, the best proof of theory. I once planted in the same field with some who ploughed shallow, while my part was broken up beam deep and furrowed with the plough one after the other in the same furrow, the consequence was that I had a better crop than they, with much less labour, and I am convinced that every similar trial would produce a similar result.

A Western Farmer.

CHEAT OR CHESS.

Mr. Smith: *Cumberland, Va. Dec.* 28, 1831.

Dear Sir,—I observed in your last No. a communication touching the much controverted proposition, "whether a grain of wheat, by any incidental circumstance, can be so far degenerated as to produce cheat or chess." Now, I am perfectly aware that the opinion of many scientific men has, for many years, given to this proposition an unqualified negative. Popular opinion, however, as confidently asserts the affirmative; and *I think* with much the most imposing array of arguments:—namely, *facts,* for which no satisfactory account can be rendered under any other supposition. There certainly are many circumstances, which, so far as they have been subjected to the scrutiny of common observation, are entirely favourable to the popular belief. Permit me to intimate one or two examples that have fallen under my own particular notice. In the autumn of 1824 I seeded some flint wheat, procured in New York, upon a piece of *new land,* from which I had just taken its first crop, (tobacco.) The seed was as pure as possible. The young crop was very promising, until about the last of May following, at which time it was entirely cut down by hail. A number of aftershoots, however, soon sprang up, and encouraged me to hope that I might still preserve some seed; but, owing to the advanced state of the season, I found the rust had so injured the grain that I gave it up, and had the ground soon afterwards fallowed, preparatory to its being again seeded in wheat. Upon the fallowed ground a new crop of *wheat* soon made its appearance, and by the usual time of seeding had so completely invested the whole surface of the land, and gave so much promise of a future crop, that I determined to permit it to remain undisturbed. I said that this *new* crop which had sprung up *was wheat.* I said so because, in walking over the ground in the early stage of its growth, I saw the young plant springing from the very *mesh* in which the parent grain had been formed. Through the winter it grew well—made a very fine show in the spring, but about the last of April I discovered, very much to my mortification, that the whole luxuriant prospect was (a) cheat. So it turned out—at harvest not an ear of wheat was to be found. I say I discovered my failure in the month of April. At this season of the year, when the shoots are beginning to rise from the ground, the spurious plant may easily be distinguished from the genuine by their different complexion, and by a certain *roughness* appearing on the blade of the former, which does not belong to the latter. If I have not tired you already, let me mention another experiment of similar result. In the fall of 1826 I seeded, on new land, from which I had just gathered its first crop, (corn) some oats, generally called "winter oats." They grew finely until an intense frost set in, in the month of January. This frost continued with unabated rigour for thirty days, at the expiration of which my oats appeared to be utterly destroyed, except upon a narrow strip running across the lot, of a nature more moist than the remnant of the ground. Upon this strip the oats survived and did well, but upon the rest of the lot not a green vestige appeared. However, about a month afterwards, I observed abundant signs of renovation in the multitudes of young shoots, springing, not out of the earth, as if liberated by the destruction of their competitor—the oats, but from the joints of the former plants. The whole lot put on a renewed luxuriance, and gave promise of a most abundant crop; and so it was, but, with the exception of the aforementioned strip, it was *cheat*—all *cheat*. Now, Mr. Editor, here are cases, which, in behalf of the popular belief, speak *(to me)* with all the force of *a quod erat demonstrandum.* But, sir, it may happen *to my demonstration* as it has happened lately to your friend Dr. Harden's, in the *bot case*—a proof fairly conclusive, because founded on actual experiment, and the very best experiment of which the case was susceptible, overthrown utterly, without touching the main points in a single instance.

Tyro.

(From the British Farmer's Magazine.)

AGRICULTURAL TOUR.

BY THE REV. HENRY BERRY.

Sir,—Having, in compliance with applications to that effect, undertaken to officiate as a judge of the stock exhibited at the respective Agricultural Meetings of Northampton, Manchester, and Chesterfield; and, having, in the fulfilment of the duties thereby imposed on me, had an opportunity to be present at the Liverpool exhibition of stock also, I am induced to give you what you may, if you please, term an "Agricultural Tour," not very pregnant, probably, with valuable information, or new discovery, but acceptable, nevertheless, to such persons, as interested in the welfare of agriculture, desire to know the manner in which others are co-operating to promote their common useful object, in various parts of the kingdom.

Leaving my residence, in Worcestershire, for Northampton, by way of Birmingham, I observed that as I approached the latter place, the system of farming became worse—the all-absorbing powers of manufactures producing here their usual results. The same effects were visible on the Northampton side of Birmingham, and it was not till very near the latter place any decided amendment presented itself to notice. Although I have before assigned a cause for this, the understanding is by no means convinced that the result is perfectly natural. It seems not unreasonable to expect in the vicinity of dense and wealthy population, every acre of ground turned to the most useful and profitable account. This, with respect to garden productions particularly. But in the line of country of which I write, every thing of the kind is done in the worst possible, and least productive manner. May we hence infer, the comparatively greater wealth of the Birmingham operatives, and their ability to purchase vegetable productions raised at a greater distance, and, if on a better soil, scarcely under advantages equal to those which the proximity of the town and manure afford land in the neighbourhood? This is merely a suggestion on facts singular as I state them, and I may add, that to other proofs of inefficient farming want of the requisite drainage is a very prominent one. Approaching Northampton the improvement is considerable, but with few exceptions, the fences are ill-kept, and occupy a great surface of the land. At Thorpelands, near Northampton, I took up my quarters with Mr. Hillyard, the president of the Northamptonshire Farming and Grazing Society—a Society which, under the well-directed patronage of Lord Althorp, and the excellent management of its president, has greatly promoted the interests of the breeder, and has properly been considered the nurse of the Smithfield Club. Few good oxen (Hereford's particularly) find their way to the Smithfield show, unless previously exhibited here, and the spirit of emulation thus excited among the graziers has the effect of securing the sale of many superior animals, at a price which the breeder could not, in any other circumstances, expect or realize.

The day after my arrival was spent in looking over Mr. Hillyard's farm, which is of first-rate quality, as his course of cropping, hereafter to be stated, will pretty fully show. The cultivation of the Swede and mangel wurzel is evidently the hobby which he bestrides with the greatest pleasure, and one that carries him so well, the chance of fatigue is precluded. I certainly saw here the best crop of Swedes I have ever noticed. Small tops and tap roots—perfectly round and uniformly-sized bulbs, growing *quite out* of the ground, except the root, was the invariable characteristic; and I learned that this very superior variety had been lately imported from Sweden, and improved, I have no doubt, by judicious selection of the seed plants. What may be accomplished by such selection, they only who have tried can form any conception, and the neglect of this simple, but necessary measure, is followed only by its proper fruits, when the blind and the idle, they who cannot or will not see, and who are averse to the slightest exertion, find the labour and expense devoted to the production of a crop of turnips, return only a produce similar in character and value to the same quantity of land covered with cabbage stalks.

I have before observed Mr. Hillyard's land to be of first-rate quality. I now state his course of cropping, which certainly will not find many advocates. Mr. H., however, says "the advantage of possessing superior land consists in your being able to take liberties with it, and to profit by such liberties; otherwise I should only be in a similar situation with the occupiers of inferior land." The system of cropping, as detailed by Mr. H. himself, is this, viz.—turnips with manure, carted off—mangel wurzel without manure, also carted off—wheat with clover—the clover mown, and of course carted off—wheat again, and lastly barley!! With this system, on this land, which is a fine rich sandy loam, Mr. Hillyard averages his wheat crop at thirty-four bushels per acre. He showed me one field on which he had grown six quarters of wheat per acre, the same field having been called on for five crops of wheat in ten years. Such land as I saw at the conclusion of this routine was unavoidably foul. The wonder is it could bear it at all. I saw here also two fields laid down to permanent pasture, in the following two methods.—No. 1. Laid down with four bushels of hay-seed, obtained from an old pasture, with the addition of some Dutch clover. This was laid down with corn, which produced a heavy crop.—No. 2. Laid down with corn also, which proved a light crop. The grass seeds for this field of four acres were procured from Mr. Sinclair, on his recommendation. One land of the latter was sown without corn, but no difference was perceptible. Part of this field also had been preserved ungrazed, but no superiority was manifest. No. 2 was coarser than No. 1, and the latter, from having been more closely grazed, had certainly the best stock of grasses, and will, I doubt not, make the best pasture. Mr. Hillyard seemed to think that the close grazing of No. 1 prevented the stronger grasses smothering the weaker, and on this principle he was mowing a field laid down during the summer, but too tender at present to graze.

The foregoing instances corroborate an opinion I have long held, that the best mode of laying down land for permanent pasture consists in obtaining hay seeds from the nearest good field of similar quality of soil—in sowing them thick, and, for a time, preventing a too luxuriant growth of any of the grasses to the disadvantage of the other.

The day proved favourable for the show of stock at Brampton, a farm of Lord Althorp's, which is excellently calculated for the purpose, and where every facility is afforded in furtherance of the objects of the meeting, consistently with his lordship's avowed predilections in its favour. An excellent allotment of land was made for the prize ploughing; of which, I confess, I cannot speak favourably. The worse, however, the execution, and the more apparent the necessity of the institution of such prizes, and though the zeal exhibited by the competitors was awkward, still *it was zeal*, and who can doubt such, under judicious direction, being at length successful.

Much anxious speculation had been indulged in respecting the probability, or rather possibility, of Lord Althorp's attendance. The evening before the show had been fixed on for Mr. Hunt's motion on the corn laws; there was, besides, "the bill," with all its attendant anxieties and fatigues, but abstaining from politics, I shall say nothing of that. Let it suffice that, having left the house of commons at one o'clock of the morning of the day of the show, Lord Althorp made his appearance at Brampton about eleven, much to the gratification, I may truly state, of all the parties present. It would be as displeasing to his lordship, as it would be contrary, I trust, to my feelings and practice, to state here or elsewhere any thing of the nature of flattery; but I do say, that when a nobleman shows, as his lordship did on that, and does on every other occasion, his warm wishes for the advancement of agriculture—when we find him joining cordially in our own adopted or necessary pursuit—easy of access—communicating freely with every person, no matter how humble his station, on those subjects to which he has directed his well-informed mind—when we see all this, and mark its effect, some warmth of expression may be permitted, for gratified feeling renders total silence impossible.

Not having before attended a meeting at Brampton, I am unable to pronounce on the comparative merits of this and of others which have preceded it. The show was not, however, in itself good, which has been the character of every meeting, with one exception, I have attended this year. It is almost superfluous to state, that an excellent dinner was amply honoured, and that the same good feeling which brought the party together, characterized the proceedings of the evening. Two interesting papers, which will appear in your agricultural intelligence, were presented to the meeting by Mr. Tallant, of Little Houghton, and though your readers may not deem them conclusive on the questions of which they treat, they are yet highly satisfactory, so far as they go.

My next point of attraction was Liverpool, which flourishing town, determined not to be outdone in any effort to promote whatever can be beneficial to the country, and recognizing the principle that agriculture and commerce should mutually support each other, has established a society, of which the present was the second annual meeting. To a sincere lover of his country, it is delightful to behold institutions like this, springing from, and supported by the operation of such principles; and, really, unless mismanagement creep into the affairs of the society, of which at present I see no prospect, it is difficult to compute or set bounds to the mighty influence it will possess while supported as at present. The show of stock was excellent, with the exception of the bulls, of which three or four only were worthy of notice; the others, and they were many, being so outrageously bad, that nothing but the grossest ignorance in the exhibiters could have led to their production in the show-yard. Here we observe one of the many advantages of such a society. I doubt not this was the first opportunity those persons ever possessed of comparing a good and bad animal together, and of making the comparison under such circumstances that they must come to just conclusions; and I venture to predict the absence, at the next year's show, of every thing like the lumber, which, in the shape of bulls, disgraced the meeting of the present year. My friend Mr. Harris, residing near Wrexham, sent a bull to the meeting, as extra stock, which, having been bred by me, perhaps it may be thought I had better not notice. Your readers, however, are aware that I have a trick of speaking out; and on the present occasion I do so, because the circumstance about to be detailed, may set those who honour this paper with perusal cogitating on a practical point. The bull alluded to, was generally considered a good one; and I venture to assert him to be very good; and knowing the judges to be possessed of considerable powers with respect to good extra stock, I was much surprised to find him pass without a compliment, while his dam and two sisters received a medal. Inquiring from Mr. Paley the reason, he told me the bull's legs were *too short!* I have mentioned this circumstance solely because I would impress on gentlemen the propriety of abstaining from the promulgation of any doctrine in deference to vulgar prejudice, which, if they really intend to serve the public, ought on all occasions to be manfully combatted. Mr. Paley knows that short legs furnish no real objection to a good animal; but he believes an ignorant purchaser in a fair requires something to fill the eye and look big, though in fact it probably is less than the short-legged one. My conclusion is, that a judge should endeavour to direct the public judgment to what is right, rather than truckle to public prejudice and error. I am sure Mr. Paley will pardon this reference to the opinion he gave me, and I should feel extremely sorry if it hurt his feelings in the least.

I was rather surprised to find in this district a remarkably good short-horned steer, exhibited by Mr. Scotson; I say surprised, because I hold an opinion, contrary to a generally received one, that to breed good steers is one of the greatest difficulties the breeder has to contend with. I often hear it remarked of an indifferent bull, whose unfitness for any other purpose is freely admitted, "he may do to get steers." From this doctrine I dissent, and assert that I conceive the breeding of good steers the most difficult branch of the art. Mr. Scotson's was a very good animal; but he proved, on inquiry, to have been bred by Colonel Craddock, whose stock has long been well known as superior.

The manner in which this society is supported may be inferred from the fact that about four hundred individuals sat down to the dinner provided on the occasion. Lord Molyneux presided, much to the satisfaction of the party.

In the vicinity of Liverpool I had the pleasure to pass through the farm of Mr. Michael Ashcroft, distinguished as a most successful grower of an improved Swedish turnip, and as the person who first introduced it into his neighbourhood. Mr. Ashcroft's farm is of a nature peculiarly to exhaust his patience, but he successfully grapples with its difficulties, and obtains great crops of every description.

From Liverpool I proceeded by that wonder of the age—the Liverpool and Manchester railway—to view the proceedings of your correspondent, Mr. Reed, on Chat Moss, an extensive bog, over which the railway has been carried. I feel quite incompetent to enter on any minute description of the railway; but I must say, it is a wonderful triumph of art, which no person endowed with the least susceptibility of what is really grand, can view the first time without considerable emotion. Every conceivable difficulty which nature could present, has been here successfully overcome, and the result is a delightful and rapid mode of conveyance for passengers, merchandize, and even sheep and pigs. At several periods of my trip I noted that our progress was at the rate of thirty miles in the hour, but the average rate was twenty. I do not understand what are the probabilities of a train of carriages getting off the rail, but I conceive, that should such a thing happen, the crash must be tremendous.

A limited capital has been devoted to the creation of the farm on Chat Moss, by a few respectable individuals, all known to each other; and the improvements which have been effected under the direction of Mr. Reed, were commenced exactly three years ago. At that time, a full grown person walking on the surface, would have sunk several inches at each step; the moss indeed was not only saturated, but surcharged with water; to remedy which, drains were inserted at very frequent intervals, it being the opinion of Mr. Reed, that this is the only efficient mode of rendering a deep flow moss sufficiently dry for the purposes of cultivation.

The fields are all parallelograms, and of such a length and width as to include between the open drains which form the boundaries of each field, exactly four statute acres. These open drains receive the water that is emitted from covered drains of a somewhat new form, which occur at every five or six yards, and run at right angles with the sides of the fields.

Roads are so contrived, that the horses employed in working the land, can not only enter every field immediately from the roads, but, both ends of each field abut upon a road, so that ingress and egress can be had at either end. For the easier transportation of the marl and the manure which is applied to the moss, iron rail-roads, some permanently laid down, and others removeable at pleasure, have been used. The form of rail-road is perfectly novel, and so exceedingly portable, that a sufficient quantity to furnish a means of conveying the marl or manure on to *one* acre, can be removed to *the next* acre at a cost of two shillings, and without losing a moment's time. Mr. R. ascribes much of the success that has attended his efforts, to the facilities which have been afforded by the use of these rail-roads, and is of opinion, that no *extensive improvements* on moss should be attempted without them. The men and horses can always find employment in the winter months, in the carrying on the process of marling; the rail-roads furnishing an efficient medium of transit almost without intermission, even in the wettest seasons. Winter employment to the out-door working classes is, in these times, highly desirable.

The course of crops had, or intended to be had, are, first, potatoes; second, wheat; third, clover; fourth, oats; manure being applied for the potatoes, and in some cases, a slight assistance of manure to the clover or oats. Although Mr. R. admits, that the taking of two white corn crops consecutively, is not, generally speaking, good farming; yet the peculiar nature of the half-formed soil which he has to work upon, leads him to think it advisable for *the first course* of crops obtained on the newly reclaimed moss, to change the above named rotation thus,—potatoes, wheat, oats, clover. The object aimed at is one which experience has proved to be highly desirable, namely, the greater destruction of the fibrous quality of the vegetable matter of which the moss is composed, before the clover is sown.

It would be by no means just to Mr. Reed, to enter on the particulars of his management, with which he very candidly made me acquainted, but some of the results may be stated. Of potatoes he grows as much as four hundred bushels per statute acre, for which he has obtained twenty-eight pounds; and last year he sold the produce of four acres of potatoes, for one hundred and twenty guineas. More beautiful crops of clover, or wheat of finer quality, that I saw here, cannot be imagined; but the grand feature of all, and which is so important a desideratum in all attempts to cultivate bog, is the *economy* of Mr. Reed's plan. To bring an acre of bog into cultivation, fit for the production of such crops as I have described, an expenditure of nine pounds only is necessary. Now, from the report of a select committee of the house of commons on the state of Ireland, which was ordered to be printed on the 16th July, 1830, it appears that there are in that unhappy country, equal to 5,000,000 English acres of bog, almost all of which is considered reclaimable; can there then exist any doubt of the propriety of the recommendation of that committee, when the small expenditure on Chat Moss is considered, and its extraordinary rerults. The increasing claims of Ireland on the attention of this country, will justify my quoting the report. "Viewing this subject in relation to the general interests of the country, the preservation of the peace, the relations of landlord and tenant, and the extension of wealth, and considering the slow progress that has yet been made towards the attainment of objects of such inestimable importance; the committee, though they depart reluctantly from what they consider a general principle, venture to recommend the trial of one or two experiments on a limited scale, at the public expense. They feel confident that such a course of proceeding would lead to the application of private capital hereafter to the same object, and would ultimately act most materially upon the wealth and industry of the county."

Such an undertaking, at the expense of government, under the management of a man of Mr. Reed's attainments in this peculiar branch of agriculture, would be attended with results widely differing from those of most government undertakings.

On the 4th of October, I attended the Manchester Agricultural Meeting, having for my coadjutors Mr. Tollet, of Betley-hall, Staffordshire, and Mr. Wright of Chesterfield; and it is only doing bare justice to those gentlemen, to say, that it afforded me the greatest pleasure to act with them, whether their superior attainments or strict impartiality be regarded. The exhibition of stock was inferior to those of former years, a circumstance for which several reasons may be assigned. The district included within the limits of this society has yet, of course, made comparatively little progress in breeding, and few superior animals are in the hands of any individual. The natural consequence is, that two or three years of exhibition have for a time exhausted the stock, and the members of this society have already learned by the decisions of late years, that inferior animals have no chance of encouragement. Time will, therefore, certainly tend to improve the exhibition. I consider also, that an alteration made in the amount of premiums tended to produce the same effect on this occasion; the encouragement thus held out, is not adequate to the risk and expense attending the transport of a valuable animal any considerable distance. The society, no doubt, had sufficient reasons for making this alteration; but if the effect be, as I believe, it might be worth while to reduce some of the premiums which are unnecessarily high, and increase the value of those which are at present too low, and if, in addition to this arrangement, they would remove the disqualification of animals having already won a premium at Liverpool, a disqualification, for which, I confess, I can discover no sound reason, I think the result must prove gratifying and beneficial in all respects. A considerable sum of money is taken for admission to the show-yard, and were it with the view only to keep this up to its present amount, or to increase it higher, I think, for this reason alone, it would be well to admit the Liverpool winners. The public, who contribute this admission money, are, generally speaking, ignorant of the merits of cattle, and if something, which to them is striking and extraordinary, be not found in the yard, I think they will cease to frequent it. I have ventured to offer these suggestions, with deference, to the committee, and with a warm wish to promote the interests of a society, my connexion with which has been productive of much gratification. It would be wrong on this occasion to omit mentioning the very extraordinary excellence of the pigs exhibited. The fat ones, I really think, excelled any I have ever seen shown in that state. The dinner was, as usual, well attended, and the discussions which followed, received much additional interest from the unexpected presence of Sir George Crewe, who stated the result of his observations on lime as a manure, in a manner highly able and interesting.

The last place to which I have to allude is Chesterfield, where, on the 7th October, the Derbyshire society's meeting was held. The exhibition here was not so good as I had anticipated, and I think the bill of premiums evinces some reasons why it was not so. I consider a great number of very small premiums, a great evil; and to a great number of second-best premiums, I should urge the same objection. Small premiums, as I have before observed, are deficient in encouragement, and seldom bring out the best stock. Where a number of second-best premiums are offered, the owners of indifferent animals are encouraged to show for them, and the judges are, almost of necessity, compelled to award them, though contrary to conviction. Thus, the character of the exhibition is lowered, and a mischievous impression is made on the public mind as to the standard of excellence, in consequence of rewarding that which is inferior. These sentiments, I know, are not popular with the society to whose rules they apply, but I think it better to adhere to what appears generally and fundamentally right, than to regard individual circumstances and prejudices. Until the particulars to which I have alluded be in some degree amended, I am sure the Derbyshire Society must not expect, what a person acquainted with the good and bad qualities of cattle will call—a good show.

With regard to the premiums offered for pigs, I observed something calculated to perplex the judges, without promising advantage to the country. For instance, three premiums are offered for three descriptions of boars, viz.—for the best of a large breed—the best of a small breed—and for the best of a breed for general use. Why not offer them, if three premiums must be offered, for the first, second, and third of the breed best calculated for general use? *General use* is the object to be attained; and offering the premiums in any other form appears to me holding out a bonus for persisting in what is wrong. My Derbyshire friends will pardon me for the liberty I have taken with them.

Having, of course, passed through a great extent of country on this occasion, I had an opportunity to make a very general remark. Four circumstances struck me, which may, or may not, be worth recording. They are these—the great abundance of grass—excellent crops of turnips—the same of potatoes—and the almost unparalleled foulness of the land. From the three first circumstances I anticipate that stock must be comparatively dear. H. Berry.

Pensham House, Pershore, Worcestershire,
October 13, 1831.

HORTICULTURE.

First Prize Essay, Horticultural Division.

THE FLOWER GARDEN, FRUIT, &c.

In reference to Florists, Dr. Young sarcastically said,

> "We grant they're idle if they'll ask no more."

and probably a large proportion of our countrymen would echo this sentiment. We are not disposed to be thankful for such concession, however; and on behalf of the cultivator of fine flowers, we put in a claim to merit of a higher order, classing ourselves with those who polish the manners, encourage the virtues, and refine the affections of a people.

Whoever has leisure wants *amusements*, and *these* often determine the character. He who loves his home will feel disposed to embellish it; but the *seeds* of taste may lie *dormant* by indolence and by want of example; or may *perish* by a perverted education which taught to view with contempt objects that ought to be cherished and admired.

The more we can make a man love his home, the sooner will he hasten to it when he has done his business abroad—the more will he avoid scenes of dissipation—and the better will be his prospect of happiness. To attain this benevolent object, we would increase the number of his domestic pleasures by interesting him in the culture of flowers. Then would he have no time to waste at the tavern—his amusement would be labour, and his health promoted by the exercise.

We are not dealing in doubtful speculations. "It is a fortunate circumstance," says Sir John Sinclair, "when manufacturers and mechanics take a delight in gardens—where a taste for keeping them in good order is prevalent, *few instances of dissipation occur.* The rearing of beautiful flowers is found *to improve the taste* for manufacturing elegant patterns of fancy muslin; while *the florists* of Paisley have long been remarked for *the peacefulness of their dispositions and the sobriety of their manners.*

Some persons, however, take no interest in ornamental plants. Then let them cultivate culinary vegetables and the fruit garden. Let *the vine* under their care hang out its clusters to the sun. So we can engage them in such innocent and delightful pursuits, our object is attained; for these are incentives to virtue; and besides, many observations tend to confirm the opinion that a taste for fine fruit is incompatible with the relish for spirituous liquors.

We recommend the culture of fruits and flowers without any design to take the farmer from his plough. All that we ask for, are his leisure hours. If it should prove an abridgment of his own comforts to talk a little less on politics, and to feast a little more on strawberries and grapes, still let him remember his family; and that such indulgences not only afford them present pleasures, but by refining their tastes, brighten their future prospects.

The *strawberry* is our earliest fruit, and of the easiest culture; yet how few afford themselves this luxury! It is even sometimes one of the necessaries of life to the sick and to the convalescent; and messengers often travel miles to procure it. Considering the pure pleasure of relieving the sufferings of others, and that we, ourselves have no security for continued health, ought we not to urge every one to its cultivation who has land to spare?

We have about twenty kinds, but one fourth of the number is sufficient. Of these, let *the earliest* be one; and also *the bunch alpine* which has no runners, and which bears till checked in the close of autumn by severe frosts. Choose a strong loam, as light sands are unfavorable; or add a few loads of clayey soil to the beds. To save the plants from being thrown out and killed by the frost, when set late in autumn, *tread the earth firmly round the roots.* By this method we secured every plant of a long bed, although the work was performed after Christmas.

A bed of strawberries scarcely requires more care after planting, than the grass in the yard before the door. We leave the runners untouched; and if the fruit is less in size, it is not less in quantity, and *clean.* When the grass gets possession, which may be long deferred by a little care, we make a new bed.

The farmer, governed by his own taste and climate, must select the trees for his fruit garden. We wish to say, however, that *the apricot* is as hardy as the peach—grows as well in the open ground as a standard tree—and that it precedes the peach in ripening almost a month. We regret that this fine fruit is so little known. Last season two cases of diarrhœa, induced by marsh effluvia, were speedily and effectually cured by a free use of this fruit. We also wish that some properties of *the quince* were better known.—From it, when *dried,* may be prepared a refreshing beverage in fevers; and we think its admixture in this state with other dried fruits, deserves more attention.

There are *good* soils which are not *deep,* and it is *true economy* in planting a *fruit garden* to remedy this defect. If the farmer is averse to employing his spade for this purpose even by *proxy,* let him introduce the plough; and by repeatedly turning the earth from the line in which the trees are to stand, and by a moderate use of the shovel, a capacious trench may be soon made. There is no danger of its being too wide and deep. Stable manure is too perishable to form any part of the *filling,* except near the surface. Leaves, decayed brush, rotten wood, potato tops, or other refuse of a farm, should be placed in thin alternating layers with the best soil; and *on these materials,* the trees will not only be more likely to grow, but they will grow faster, and bear sooner, and bear better fruit, especially in dry seasons, than if planted without such preparation. And there is a pleasure arising from success, and from seeing things flourish under our care, that ought not to be overlooked in this calculation.

The farmer will choose his own fences against cattle, and take his own precautions against birds and boys. In pruning, he must leave branches enough on *the south west side* of the tree, to shelter the trunk and large limbs from the hot sun. The caterpillar is readily managed; but in regard to some other evils, horticulturists are not so well agreed. In this state of things, the cultivator will find it profitable to observe for himself, and to enquire.

The *peach tree* is gnawed at the root by a worm (*Ægeria exitiosa*) which is easily removed by a knife or a chisel; but the tree is also subject to a contagious disease called *the yellows;* and the discoloured leaves and feeble branches are often wrongly ascribed to the worm. It is a fatal error; for the tree is incurable, and only by its extirpation can the other trees be safe.

The *fire blight* is of serious import to him who cultivates *the pear* and *the quince* though other trees sometimes suffer. Experience has shewn that the malady may be completely checked when it first appears on a farm, by cutting off and immediately burning the injured branches.

A vast quantity of fruit is annually destroyed by a worm which causes the plum, apricot, and nectarine prematurely to drop from the tree. To prevent this loss, let the tree after the blossoms fall, be frequently shaken by a cord connected with a swinging door, or with a working pump handle. Or let the bugs be jarred from the tree and killed. Or keep geese or pigs enough in the fruit garden to devour all the damaged fruit as it falls. We know that this last method is infallible.*

Could this insect (curculio, species?) be satisfied with three fourths of all the fruit that sets on our trees, we should be great gainers by keeping such a fellow in our employment; for the fruit would be larger, and far more delicious. But we cannot restrain him within reasonable bounds, and we must be content to thin it on the branches by our thumbs and fingers. This is an important operation. Without it, several varieties of these fruits are not fit for the table; and it is remarkable that if the supernumeraries are removed even so late as not visibly to affect the size of the remainder, still their flavour will be greatly improved. Last season, our *gros mignon* peach tree was overloaded, and the fruit comparatively insipid; yet after much the greater part had dropt in the due course of ripening, we found the gleanings to be really fine.

Much might be said on the *grape,* the *gooseberry,* &c. but we have not forgotten the FLOWER GARDEN; and only the fear of loosing some readers, induced us to postpone it so long; for there are persons who talk of *fruit* that scarcely listen to the name of *flower.*

A small garden that affords a view of the adjacent lands, is more pleasant than when surrounded by high walls; yet so many advantages attend this kind of enclosure that a farmer may well forego the pleasure of a finer prospect.

The north border, divided into *boarded* apartments about seven feet in length, and protected in severe weather by wooden covers (which on mild days may be turned up to admit the air and light) is of great value to the florist who has no *green house;* and enables him to keep many plants which would perish in the open ground.

But the south border on an east and west line under the north side of a high wall or board fence is not less important. Many of our finest native flowers perish when taken from the forest and exposed to the summer sun; and several *exotics,* are not more able to support the heat. Last season we had a deep trench cut three feet wide, and then filled with vegetable earth and rich loam. We consider it more valuable than any equal portion of the open garden. Here seeds may be sown which are so fine as only to bear a slight covering of earth, but which yet require to be kept moist, and from which the young plants are so small and weak as to perish in hot sunshine; and here slips and cuttings may be *rooted* which would irrecoverably wither beyond its shade.

Such a border, screened from the sun in the hotter part of the day, will remain *moist* when the open garden is suffering from *drought.* But many plants require the full *heat* of summer as well as *moisture.* For these we have a wide border trenched two feet deep, into which rich loam and much vegetable matter were thrown in alternate layers, but which do not quite rise to the common surface; and into this is led all the surplus water of the garden in rainy weather. We have no fountain, and this was adopted as a substitute. In winter the snow settles more on this low part, and the frost penetrates but little below the surface.

There are also plants of the hills which are very desirable; and in a level garden, an artificial mound may be constructed at small expense. For such plants as require a sandy soil, the cultivator whose garden is a clayey loam, may raise a border on the common surface, 10 or 12 inches high, composed of yellow pit-sand (not free from clay) and vegetable earth from the woods. The labour is trifling; and notwithstanding the prejudice against "carting in dead sand,"* our own experience has shewn that it forms one of the finest of factitious soils.

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* "*We know this last method to be infallible.*" This statement was grounded on the experience of EIGHTEEN years, but the NINETEENTH has proved an exception, in consequence of the extraordinary increase of insects on the one hand, and the scarcity of young fruit on the other. The services of hogs and geese extend to something more than devouring the fallen fruit: their *appearance* often alarms the curculio. A further service is rendered by the hog in shaking the trees and dislodging the insects by rubbing. Without some protection of this kind, new colonies of the curculio will continue their ravages without interruption.

We have lately received from several quarters the most respectable testimonies in favor of *paving* under trees. The first judge (a) of this county informed us that several years ago, a *gravel* walk in one of his lots in that village was overhung by some limbs of a plum tree. The fruit on these was untouched by the curculio while the other branches were unproductive. How much of this effect may be ascribed to persons walking under *this side* of the tree?

One of our distant friends (b) has informed us by letter that two of his plum trees standing at the side of a pavement had some overhanging branches which were heavily loaded with fruit, and all the other parts of the trees were entirely destroyed by the curculio. He adds "I intend to profit by this experiment, and *pave* under my *other trees.*"

The following circumstance, mentioned in the same letter, rather indicates that no particular pains are necessary in this kind of *paving*; and it is not unlikely that rubbish of any kind would prove useful, such as fire-wood, broken boards, or loose stones gathered from the fields. Whether straw, cornstalks, or other refuse of the barnyard would be repulsive to these invaders, we have never heard suggested.

"E. R. shewed me two plum trees which bore profusely this season (1831,) around which lay heaps of stone and rubbish while they were erecting a new building—all their other plum trees lost their fruit." Whether these trees were frequently approached by the workmen, is not noticed; nor whether their other trees were more remote from the busy scene,—but it is probable.

(a) Joseph L. Richardson, Esq. of Auburn, N. Y.

(b) Daniel Longstreth, of Warminster, Bucks county, Pa.

* "*Carting in dead sand.*" Those who are constrained by local situation to lay out their gardens in heavy or clayey soils, will use *the greatest economy* in "carting in dead sand." Every independent farmer can afford to have so small a spot in the best condition, as there will soon be a balance in his favor exclusively on the score of labor; for carting in sand is *a labor-saving operation.* When heavy rains are succeeded by drought, tenacious soils contract, forming numerous cracks; and unless manure has been liberally applied, and the rainwater has been prevented from standing on the ground—these cracks will be deep, and one of two things will follow: the soil must be immediately reduced into fine particles *like sand,* to fill up these chasms, or many plants, if delicate will perish, and if vigorous will be checked in their growth. Now the difference of labor between performing this operation on a stiff clay, or

As a summary, some ornamental plants do best on a raised border; others on the common level; and a third class below the common level. Some require the full blaze of the summer sun; while others only flourish in a shade approaching to twilight. Attention to these hints, by the florist would save hundreds of fine plants.

No inconsiderable part of the skill of the regular gardener, relates to multiplying plants which increase too slowly, if left to the unassisted operations of nature; and as duplicates of particular kinds are very desirable to every proprietor, either for himself or for others, we offer the following notices.

Last year we took *scales* from the roots of the *pomponian lily*, the *double white lily*, and the *spotted white lily* about mid-summer, and set them in a box of vegetable earth which was shaded, and in dry weather watered. In autumn, almost every scale had formed a small bulb where the end had been severed from the main root; and some of these new plants had even at that time produced single leaves. This spring some are already in four leaves. We hope that by this method *Lilium japonicum, L. spectabile*, and some others may soon be so much increased as to be offered at reasonable prices.

The seeds of the *oriental poppy** rarely vegetate; but small bits of the root separated in autumn, produce leaves in spring. We have now thirty thriving plants from the fragments of one plant which was taken up last season. Similar success has attended roots of *Pœonia tenuifolia;* and other rare kinds of *Pœonia* may also be increased in this manner, although roots of *Pœonia paradoxa* remained one year in the ground before new stalks appeared.

We mention another method on account of its probable application to many other plants. Late in autumn, a *Polemonium ceruleum* was covered with light earth. On removing this covering in spring, we found eight etiolated stems, two or three inches long, in an intermediate state between *stem* and *root;* and wishing to increase the plant, we separated and set them in our shaded south border. Each has now become a thrifty plant.

We have not room to give, as we originally intended, a list of ornamental plants, suitable for the garden of an independent farmer,—hardy, vigorous, and beautiful; and we close our essay with a remark on the culture of melons.

We have never failed in the most unfavourable summers to grow good melons on a sandy soil; while on rich but heavy loams, our success has been uncertain. The reason is, the roots of these plants require a loose soil from which the water in continued rains, can freely pass off. Some who cultivate heavy loams, place their main dependance for a melon crop on *sods* which are made to underlay the bed, and which become very porous as the fibrous roots of the grass decay. In a heavy loam however, we have practised the following method: having formed a trench by the plough and the shovel, not less than 18 inches deep, we throw in fine brush and old stalks which were near and abundant. On these were laid sods, chip manure, and on the latter more sods, till the whole was covered. Pit-sand and vegetable earth were laid on in equal portions, adding fine manure from the barn yard, and some ashes, so as to form a full rounded surface between the two banks on the sides of the trench. We expect that this bed will answer the purpose intended for many years.*

(From the British Farmer's Magazine.)

A Guide to the Orchard and Kitchen Garden, or an account of the most valuable Fruit and Vegetables cultivated in Great Britain; with Calendars of the Work required in the Orchard and Kitchen Garden during every Month in the Year. By George Lindley, C.M.H.S. Edited by John Lindley, F.R.S., &c. &c. and Prof. Bot. Lon. Univ. Longman and Co.

It is but rarely we see practical experience and superior science united so intimately as we find them in the very respectable volume before us. The long experience of Mr. Lindley, senior, as a nurseryman—his constant attention bestowed in selecting a pure stock of trees—identifying the true kinds—and settling the nomenclature of our cultivated fruits and culinary plants—all which are embodied in this publication, render it peculiarly valuable. The book only needed a few illustrations of science; and this it has received from the able pen of Mr. Lindley, jun. whose professional station and studies, laying open to him every source of botanical and horticultural knowledge, eminently qualified him for the task.

From the many publications of the same kind lately issued and issuing from the press, it may be thought that the subject is exhausted, and that Mr. Lindley's is a superfluous volume. This, however, is not the case; it contains many excellent things, both old and new: and though the united knowledge of no two men, however talented, can possibly compass every particular known to nurserymen and gardeners; yet this certainly has its full share of valuable information, especially for young nurserymen, and, indeed, to every orchardist who may be desirous of possessing a good collection, or of propagating their own favourite varieties of fruit. We would particularly instance the directions given relative to the choice of stocks proper for each kind of fruit. Much of the planter's success depends on the proper adaptation of the stock to the graft or bud; for unless the former be chosen to correct the exuberance, or to assist the defects of the latter—and unless, also, the stock be suitable to the natural soil of the planter, no well-grounded hopes of success can be entertained. Mr. Lindley, or any other nurseryman who attends to this most material, and too much neglected branch of business, deserves every encouragement. Indeed, It is the only basis on which a nurseryman's reputation can be established; and every one interested either in the raising or planting fruit trees, will feel himself under obligation to the writer, for divulging so much of what may be called the arcana of the trade.

That division of the book treating of the kinds and culture of culinary vegetables, is all consonant with the best practices and knowledge of this branch of gardening; and, of course, enhances the value of the publication to those who are not professionally acquainted with the products and routine of kitchen garden business.

The descriptive list of fruit is preceded by a well written introduction by the editor, in which, while he gives the rationale of the different modes of working trees, viz. by budding, grafting, layering, &c. gives also a sketch of his creed as a botanical physiologist. As it is not always politic in a professor, especially a young one, to express a too decided opinion on any branch of natural philosophy not yet quite freed from doubt—we think Mr. J. Lindley has done wisely in abstaining from mooting several controverted points in vegetable physiology which are still involved in obscurity; and on his account, we should not have felt regret, had he omitted all. But he has espoused one prominent tenet of physiological doctrine, which in his future lectures he will either have to explain and prove, or to retract. We allude to the opinion first, or at least long ago suggested by Dr. Darwin, and now very generally adopted by French botanists—*that the annual accretion of the wood of exogenous plants is chiefly formed of fibres which descend from the buds and shoots of the present year*. Now, notwithstanding the plausibility of this idea, and the many apparent proofs producible of its reality, it is not entirely devoid of suspicion as a matter of fact. We fear the French botanists would be puzzled, if required by their pupils to point out these fibres "descending in the spring," or to calculate the speed with which the fibres descend from the buds of a tree seventy or eighty feet high, so as to appear at the root as soon as they do on the topmost branches. Besides, the reception of this doctrine induces an expectation that the axis of a stock would become invested in a few years with the peculiar wood of the graft, leaving nothing but the bark and woody axis of the former unchanged. Now this result, so far from being confirmed by observation and experience, is never seen to take place, and therefore the theory has been denied by several physiologists of high authority.

Whether these high authorities be right or wrong we need not now stop to investigate; believing, as we do, that Mr. L. whose acquirements as a botanist and scholar have gained for him a conspicuous station in science, would not inconsiderately have put forth any opinion on physiological phenomena

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on a soft sand is more than five to one. If the farmer is particularly busy at such a time, and no weeds are acting the part of robbers among his plants,—in a sandy border, the labor may be safely postponed for many days. Or if he think the dressing must be given, it may be done in little time.

There is another item in this account of some magnitude, whether the proprietor handles his own hoe or not. No man will chop seasoned hickory with the same ease that he drives an ax into softer wood. No man will hoe an indurated clay for the same wages (if his choice is free) that he would be willing to work for, in a mellow soil. If we labor to increase our comforts, then "cart in dead sand" that we may labor comfortably.

In some calcareous clays, (c) sand in moderate quantities has been found to render the soil still harder. This difficulty may be *profitably* removed by a free use of vegetable soil from the woods, and of leached ashes. In many interior parts of our country, the latter has been thrown from the asheries into huge piles, which are not used except for mending roads, and may be had in almost any quantity. A farmer in more unfavorable situations however, may find enough for his garden. Its chief use is to change the constitution of the soil; and with this view we have very advantageously applied it at the rate of more than three hundred ox cart loads to the acre. It was *most intimately mixed* with the soil by many ploughings, without which, success would be doubtful. The fine charcoal mixed through all wood ashes, is a most valuable ingredient; and much might be procured from coal pits and smith shops, where it lies entirely neglected.

This season (1831) we have raised turnips on a heavy calcareous loam, ameliorated by a top dressing of sand, some muck, and some ashes,—and the product has been at the rate of nearly eight hundred bushels to the acre. These were very fair, when in the adjoining ground *not sanded*, the turnips were very inferior and much infested by worms.

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* "*The oriental poppy.*" *Mechanical injury* has been successfully employed by horticulturists on some particular plants, to excite a preternatural effort in the production of new shoots. This method of increasing plants may be greatly extended.

A wild plum tree had stood many years in the fruit garden, and suckers except near the tree, had not been observed. Last spring it was cut down, and a most plentiful crop of young shoots encircled the stump, many of them at the distance of several yards.

A similar result is constantly observed on felling the coffee tree (*Gymnocladus canadensis.*) A plant of Bugloss (*Anchusa officinalis*) had unobtrusively occupied a site in the border; but its place was wanted. After removal, all the fragments of its roots which remained in the ground started into new plants; and one season has not proved sufficient for their extirpation.

The roots of oriental poppy have been nearly as productive of new plants; and minute divisions may probably be successfully made of the Caucasian poppy (*Papaver bracteatum*) which is now under experiment. The destruction of the stem in Adam's thread (*Yucca filamentosa*) is succeeded by suckers.

* *An artificial melon bed.* We have been very successful in growing melons on this bed in 1831, when several good horticulturists have entirely failed on common heavy soils. This season has been very wet.

(c) On the authority of Horace Hills, merchant of Auburn, N. Y.

which he had not proofs to support. But, be this as it may, the question involves no difficulty, nor can it alter any practical expedient, and therefore, can in no way detract from the value of the book; which, on the whole, we can safely recommend, as containing a large fund of practical knowledge, and, we may add, the marrow of every thing which has been, from time to time, published on the subject; in fact, an epitome of all that has been accredited and determined by the Horticultural Society of London, relative to fruit, ever since its establishment.

(From the British Farmer's Magazine.)

ON PRUNING.

Practical Hints on Pruning Forest and Hedge-row Timber Trees. Addressed to Mr. Coke's Tenants, on the Holkham Audit-day, July 12th, 1831. By Mr. Blaikie.

"When side branches of thriving timber trees, not being of the fir tribe, are cut off close to their stems, the bark soon closes over the wounds, and too frequently misleads injudicious pruners, who vainly imagine the stems or boles of such trees become perfect, and remain sound, after having been subjected to such barbarous treatment. Whereas, trees so mangled, are in general totally spoiled, for the stumps of the close pruned branches, after being covered over with the new bark and sap wood, or, as it has been called by the advocates of the measure, 'sealed up,' invariably rot in a few years, after the pruning operation, and communicate the disease to the hearts of the trees. The marks of the saw, and cuts of the bill hook, are distinctly seen on the ends of the rotten stumps, and clearly prove, that the trees from which these specimens were taken, had been pruned artificially.

"No union or adhesion takes place between the stumps of pruned branches and the new wood which grows over them, at least, none such has been observed in any of the numerous specimens which have been inspected at Holkham.

"Forest and hedge-row timber trees should not be pruned, in any case where that practice can be beneficially dispensed with. Natural pruning is much preferable to artificial; as the upper side branches of trees extend themselves over the lower ones, the latter dwindle away, and drop off from the boles of the trees—hence the term 'natural pruning.'

"The stems of forest trees seldom sustain any injury from the side branches decaying, and dropping off in the natural way. In these cases nature provides antidotes for the seeming defects; the branches decay gradually, and the stems of the trees increase in size proportionally—the decayed branches are ultimately pushed out, or pinched off by the increase of sound timber. The stems of the trees are then perfect in reality, and not deceptively so, as in artificial close pruning.

"Trees, which do not grow from stubs, and have not been pruned and mangled, are called 'maiden trees' in the timber trade, and are in high estimation with timber merchants, who reject close-pruned trees.

"The only rational excuse for pruning forest and hedge-row timber trees, is where they have over-luxuriant side branches, which draw too much sap or nourishment from the stems, and do injury to underwood in copses, and to bushes in hedge-rows, and corn crops adjoining thereto. Such trees do sometimes require to be pruned, and that operation may be performed, and the desired object attained without damaging the timber, or injuring the trees in any way, by the process called *'foreshortening;'* that is, by cutting off the tops of over-luxuriant branches immediately above where lateral shoots spring from them.

"By this method of pruning, the currents of sap are checked, and diverted from the strong side branches into more profitable channels—the boles of the trees. These increase in size, in proportion to the extra quantity of sap thrown into them by pruning operations; the upper branches of the trees then expand wider, and overtop the lower branches which have been shortened. These dwindle and decay gradually, until they are ultimately pushed out of the stems, and pinched off, as before described in the operation of natural pruning.

"The branches should be shortened at a greater or less distance from the stems, in proportion to the size; a due proportion of live branches should be left upon the stumps, sufficient to draw sap or nourishment in that direction, and thereby prevent the stumps from premature decay, and causing rot in the hearts of the trees."

RURAL ECONOMY.

(From the New England Farmer.)

BOTS IN HORSES

Mr. Fessenden: *South Boston, Dec. 22d,* 1831.

I have read very attentively the article in your paper of yesterday, copied from the American Farmer, relating to bots in horses. Every thing that may throw light upon the subject is important, as this insect has been generally and I must still believe rightly, thought the most formidable enemy to the horse. I feel a deep personal interest in the subject, having lost one valuable horse, I doubt not in the least by a direct attack of the bots, and another, as I firmly believe, by colic, occasioned by his stomach being disordered originally by the depredations of bots. The last mentioned horse died at a distance from home. I did not see him after he was taken ill and had no opportunity to examine the condition of his stomach. The more remote cause of his death is therefore a matter of conjecture. A case, however, has come under my observation, which I cannot reconcile with the new theory of Mr. Harden. To illustrate this case I must first refer to another. In February, 1828, one of the horses above mentioned died, after having been ill about 24 hours. As soon as he could be skinned, I commenced dissection to ascertain the cause of his death. On coming to the stomach I found very many bots, and about two thirds of the inner or villous coat of the stomach entirely eaten away—*not eaten through, as the outer or muscular coat remained almost entire.* Now if their object had been to make their escape as speedily as possible from the stomach of the dead animal, they would not have passed over so much surface. They might have eaten through in any part, immediately. Now could it have been their object to gorge themselves at last with one desperate meal of flesh. Ten times their number, voracious as they appear to be, could not have devoured so much, in the time that elapsed between the death of the horse and the time of dissection. In fact, they discovered no disposition to leave the maw of the horse. At the lower passage where it appeared to have been thinner they had eaten through in shreds; but had not made their escape. Where most of them were present, they seemed leisurely at work, to satisfy their natural appetite.

I published some remarks upon this case at the time, in the New England Farmer, with a reference to the natural history of this insect in the 4th volume of the New England Farmer, page 345, by Doct. Green of Mansfield, a gentleman well known to be one of our most learned entomologists, uncommonly accurate in his observations and thorough in all his investigations. Dr. Green's account should be read by every person at all interested in the subject. If he is correct, as I doubt not he is, bots are not *bred,* though they *may* be said to be raised in the bowels of a horse.

The other horse I lost seven or eight years ago. He was young, and had been easily kept in good condition. The spring before he died, he perceptibly lost flesh, and discovered symptoms of being troubled with bots.

Through the following summer, I had but little and light work for him; yet, with much better keeping than usual, I could not hide his ribs. In the autumn, he was seized with colic, on a short journey, in the hands of an experienced and careful driver, and died before the next morning. His death was caused by a small quantity of corn remaining undigested in his stomach. Taking all the circumstances together and in connexion with my late experience, I have concluded that he had been essentially injured by bots. For I can hardly conceive, that double the quantity of corn he had eaten would have injured a horse with a sound stomach.

I have yet to state the case on which I chiefly rely, to prove that bots prey upon the stomach of the living horse, always to his injury in proportion to their ravages, and very often to his destruction, if they are very numerous. In the winter of 1829, a man in my employ kept a horse in my stable. He was seldom used, and put to no hard service. He was not meanly poor when he came, but rather lean. He had what good English hay he would eat, and grain daily. Still to my surprise, he seemed to gain no flesh. At length, he was seized with colic, which caused an entire stoppage in his bowels. We could not remove it by cathartics or clysters. After death, I examined his stomach myself, could find only two or three bots, and those of small size. Yet, there was abundant evidence of their former ravages. About two-thirds, I should think more, of the inner coat of his maw had been eaten away clean long ago, as was evident by a scarred rim or head, along the edge of the portion not consumed; showing that nature had been making an ineffectual effort to repair the injury, after the plunderers had finished their brief existence and retired. I may be told it is not absolutely certain this injury was caused by bots. Yet, appearances so exactly corresponded to those in the case of my own horse where I found them in the very act, that I have not a doubt upon the subject. If the knife had been applied, as recommended by Mr. Harden, this horse might possibly have been relieved, for the time; but never could have been a serviceable beast. His intestines were greatly inflamed, and distended like blown bladders, by the air produced by the fermenting undigested food that was stowed away in them. Many cases described to me by others, still more confirm me in the belief, that bots do prey upon the stomach of the living horse as their natural food. It did not occur to me in describing the case of my own horse, but I might have added, that I kept many of the bots several days, under various experiments, and often applied them to the stomach of the horse after soaking it in warm water. They uniformly seemed at home, firmly applied their hooks and went to work, greedily sucking any blood that flowed from the minute vessels. For many interesting particulars, relating to this subject, I would again refer to the communication of Dr. Green, above mentioned.

The article of Mr. Harden contains many valuable hints; but I cannot yet subscribe to his theory. Instead of colic being the original cause of death to horses, in so many cases as he supposes, I am confident the colic is much oftener occasioned by the bots feeding upon the stomach, till it is rendered incapable of performing its natural functions. When they leave the horse, having attained their growth, they leave him peculiarly liable to colic, for his food can never after be well digested, and much of it will pass through him but imperfectly digested, always a pretty certain indication of disease, of an unhealthy or unsound state of the stomach. I will not further extend this article, to comment particularly upon the theory of Mr. Harden. The attentive reader will perceive that his facts may easily be accounted for, without adopting his theory. It is very natural, for instance, that bots, when disturbed by dissecting or handling the place of their abode, should endeavor speedily to hide themselves from observation. But this is *one* thing, and leisurely eating away the *inner* coat of the stomach, leaving the *outer* nearly entire, is quite *another*.

At this season of the year, it may not be amiss to add a few words on the proper mode of treatment for the bots. It is evident they cannot be killed within the horse, without endangering his life. The object therefore is to administer something which they may prefer to feeding upon his stomach, to induce them to let go their fast hold; and then to discharge them as speedily as possible by the most active and powerful cathartics. If a horse is violently attacked, first give him laudanum to reduce the spasms. Bleed freely in the jugular vein. But I think there is danger in *bleeding any animal till he falls.* Turn down a quart or two of the blood, warm as it flows; or give that quantity of warm milk and molasses; and in a few minutes a powerful dose of castor oil, or other like medicine. Cramming down the entrails of a fowl may be considered a ludicrous prescription, and indeed I should never think of recommending it. Still I have heard of cases so well attested of relief being gained by it that I can easily conceive it to be a rare dainty to the insects, in the failure of their natural food. Respectfully, LEMUEL CAPEN.

THE FARMER.

BALTIMORE, FRIDAY, JAN. 6, 1832.

AWARD OF PREMIUMS.

The committee appointed to award the premiums in accordance with our proposals, published in the 1st number of the present volume of the Farmer, award as follows:

To RICHARD K. MEADE, of White Post, Va. the premium for the best essay on agriculture, being a perpetual free subscription to the American Farmer, for his essay on the improvement of worn out land.

To JOHN STILLWELL, Dresden, Ohio, five years' subscription to the American Farmer, beginning with the 1st number of the 13th volume, for his essay on the culture of Indian corn.

To GIDEON DAVIS, Georgetown, D. C. one of the previous volumes of the Farmer, for his essay on TILLAGE.

To DAVID THOMAS, of Aurora, Cayuga county, New York, the premium for the best essay on horticulture, being a perpetual free subscription to the American Farmer.

To JOHN C. SHORT, of Cleves, Ohio, the premium for the second best essay on horticulture, being five years' subscription to the American Farmer.

To the essay signed "CALVIN," dated Preston, Hamilton county, Ohio, the premium for the third best essay on horticulture, being one of the previous volumes of the Farmer.

To the essay signed "R. J. B," and dated Fayette county, Kentucky, the premium for the best essay on any subject of rural economy, being a perpetual free subscription to the American Farmer. This essay was published in the 28th number of the present volume of the Farmer, and entitled "PRACTICAL OBSERVATIONS ON THE PRINCIPLES OF BREEDING."

To N. HERBEMONT, of Columbia, S. C. the premium for the second best essay on rural economy, being five years' subscription to the Farmer, for his essay entitled "HONESTY IS THE BEST POLICY."

We publish in this number, the first horticultural prize essay, and the second prize essay on agriculture. The first agricultural essay is withheld for a few weeks; for a more appropriate season.

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On the above award we may be permitted to remark, that every essay offered, that could be published under any circumstances, has received a premium, according to the terms of the proposition. That so few essays have been offered, is altogether incomprehensible to us. The premiums were considered liberal by all. Why, then, have they failed in their object? It is scarcely necessary to observe that our main object was, to awaken a spirit of agricultural improvement, by inducing practical men to write and publish their ideas on the various departments of husbandry; and we thought this the most practicable mode of effecting that object. But it seems that neither honors, nor interest, nor persuasion, can be made to rouse the slumbering pens of our farmers. The strange, the absurd notion, has got abroad among them that nothing new can be written—that "THE SUBJECT IS EXHAUSTED," and hence they have laid aside their pens, or employ them only in *politics*. If this wretched idea be practised upon much longer, it may be enlarged upon thus:—all has been written that can be on agriculture, and *forgotten*. Need we enter into an argument with rational men to prove the fallacy of this idea? Surely not.—There is no branch of human employment, on which the pen can be employed, so fertile in subjects as that of agriculture; none which presents so much unoccupied ground, and none on which so much may be written with so much advantage to the writer and to his country. Every day in the year presents something new to every tiller of the soil; and every act of an agricultural life elicits something which would be new to farmers generally. Whatever may be the result, we shall have the consolation of knowing that we have done all we could to incite a spirit of improvement in the agricultural interest. If our farmers prefer reading and writing politics, we cannot help it. Such employment may appear well enough now, but the time will come when more *farmers* and fewer politicians will be necessary to the nation's welfare; when owners of land (we will not say farmers,) will see in their sterile fields and stinted harvests, that politics, though they may serve to amuse, will not do to live by; and when fathers will find, in the impoverished condition of their sons, that something more substantial than politics could have been more profitably infused into the minds of their children.

We do not wish to be understood, from the above remarks, as placing a low estimate on the essays that were presented and obtained premiums. Some of them are indeed excellent, and one or two all we could wish. The one on "the Flower Garden," &c. by David Thomas, of Aurora, N. Y. published in this number, we deem of high value; and the one on the "Culture of Corn," also published in this number, though very short and unadorned, is an excellent article. The first prize essay, on improving worn out land, will speak for itself. We have no doubt it will be generally considered a valuable paper. The one on the Principles of Breeding, published in the 28th number, is also an excellent article. There are one or two others that are good. Our complaint, therefore, is not that the articles presented are not better, but that so few were presented.

CHEAT OR CHESS.—We thank our correspondent "Tyro," for his communication on the subject of wheat turning to cheat. Notwithstanding the strong circumstantial evidence he adduces in support of the popular belief that cheat is degenerated wheat, we are still unconvinced. The fact he states, however, of the cheat plant growing from the joints of the injured oats, if there be no mistake about it, comes nearer to a demonstration of the theory than any thing we have yet seen. But here another difficulty presents itself: oats and wheat are very different plants; and it seems altogether beyond human credulity, that injury or any other cause could make them both divest themselves of their individual characters and put on *the same*, and those, too, of a new and entirely different plant. If an injury either from the weather or other cause, were capable of changing the character of a plant, we should suppose that different plants thus affected, would assume different characters; but certainly we should not expect them all to assume identical ones. The popular belief is unsupported by analogy, so far as we are informed. No other plant has ever, to our knowledge, been suspected of being metamorphosed into a different one by any cause whatever. Injury from the weather and all other causes, affects the health or the life of all other plants, but never changes them to other plants. The only way by which we deem it possible that cheat can be the produce of wheat or oats, is by *hybridisement*. It is possible that wheat while in flower, may become impregnated by the pollen of some other plant near it; that the seed of the wheat would not be changed in its appearance; and that when sown, the plant produced from it would be a hybrid between the wheat and the other parent plant, and that this hybrid is cheat. This is the only mode we can deem at all plausible by which wheat, oats, rye, or other plants can produce cheat.

We cannot pretend to explain how the cheat may have got into the wheat field of our correspondent; much less how a plant of cheat could have grown from the joints of his oats. But the absence of an explanation in this case is not singular—we will agree to furnish one, however, whenever we shall be informed of the origin of white clover, of pine growths, of cherry trees, &c. all of which are known to spring up spontaneously in different parts of the country, when fields are thrown into pasture, and growths of other timber cut off. In the case of the cheat growing from the joints of the oats, we must be permitted to ask our much respected correspondent, if it is not possible he may have mistaken the plants? Might not the plants from the joints of which the cheat grew, have been originally cheat? We know he is more anxious for the triumph of truth than for the establishment of a favorite theory; and that he would not assert as matter of fact that of which he had the least doubt. But in this instance, we beg leave to say, we think he must have been mistaken. There is an easy way of putting this matter to rest, and we have made arrangements for a trial of it—not for our own information, but for that of others; we have no doubts on the subject. Let a patch of perfectly clean wheat be sown—the seed to be taken from a field where there was no cheat or other noxious plants. By the side of it let a patch of cheat be sown. At the proper season, let one half of the wheat be lacerated and broken down, and the other half protected from injury. If the injured part of the wheat or any other produce cheat, then we shall be satisfied of the correctness of the popular belief.

CULTURE OF THE VINE IN PENNSYLVANIA.

A gentleman near Harrisburgh is said to have made this year, from the produce of a vineyard, planted four years ago, and occupying only 3 acres, 18 barrels of wine, worth $20 each.

FOREIGN MARKETS.

LIVERPOOL, Nov. 15.

The boisterous state of the weather and a scarcity of vessels in the Irish ports have diminished our usual supplies. Those of Wheat and Flour are very light, but of Oats and Oatmeal they are nearly equal to the demand.

Though the Wheat trade throughout the week has been any thing but lively, and some quantity of the previous supplies remain over, holders have evinced little or no disposition to press sales, and prices have been very nearly sustained. Most of the finest parcels of new Wheat have been picked up by the millers at 8s 2d to 8s 3d for Dundalk and Dublin, and 8s 1d to 8s 2d for choice Limerick and Wexford. There have also been some speculative inquiries for these descriptions, which, though they have not yet led to business, have tended to increase the firmness of the importers. Sack Flour finds a ready sale; choice brands of Irish have brought 49s per 280 lbs.

There is very little American of good quality in the market.

The best oats have rather exceeded our last quotations, with a fair demand; but middling parcels do not go off readily. Grinding parcels, together with Indian Corn, meet an increased demand.

Two or three small parcels of bonded Flour, which were sold at 22s 6d to 23s for sweet, and sour as it rose, are the only transactions reported in that article. There have been numerous inquiries for wheat, but, we believe, little actual business has occurred. Oats would exceed our previous currency.

To Day's Market was well attended by the neighbouring millers, and there was a pretty good clearance of the new wheats, at prices fully equal to those of last Tuesday, which is a decided improvement on the rates of Friday. In the value of old there was little or no alteration. For oats last week's rates were with difficulty realized.

Our cotton market continued in a very dull state during the whole of the past week, without, however, producing an alteration in the prices, except the middling and inferior descriptions of American, which rule a shade lower than our last quotations. The sales amount to 8,240 bags, consisting of

3020 Bowed at 5d to 7d, chiefly at 5 3-8d to 6d for middling to fully fair.
1410 Orleans at 5¼d to 7½d, (10 at 8d) chiefly at 6¼d to 7d for middling to good fair.
1650 Alabama and Mobile at 4¾d to 6¾d, and a few at 7d.
140 Sea Island at 12¼d to 14d.
40 Stained ditto at 6½d to 8½d.

150 hhds. tobacco (new strips) at 3¾d. to 5d. per lb. have been taken for the home trade, and 50 hhds. leaf and strips for Ireland; there is some inquiry for export, but not much business done.—No sales have been made in Carolina or East India rice. 300 brls. Stockholm tar were sold at 14s. 6d per bbl. Prices of ashes continue steady, but there is no material improvement in the demand; the sales reported are 480 bbls. Montreal pots at 31s. 9d. to 32s. 6d. and 26 bbls. Montreal pearls at 33s. 6d. per cwt.

Cotton Market, November 16.—Our cotton market is still gloomy; the trade still continue to purchase sparingly, the supplies very moderate, still, prices have not declined.

Prices Current in New York, Dec. 31.

Beeswax, yellow 18 a 19. *Cotton*, New Orleans .10 a .11½; Upland, .7 a .10; Alabama, .8 a 11. *Cotton Bagging*, Hemp, yd. 14½ a 17; Flax 13 a 14½; *Flax*, American, 7 a 8.——*Flaxseed*, 7 bush. clean .—— a —— *Flour*, N. York, bbl. 6.25 a ——; Canal, 6.75 a 7.00; Balt. Hwd. st. 6.62 a 6.75; Rh'd. city mills —— a 6.75; country, 6.50 a ——; Alexand'a, 6.50 a 6.75; Fredericksburg 6.25 a ——; Petersg. —— a ——; Rye Flour, 4.75 a ——; Indian Meal, per bbl. 3.37 a 3.50; per hhd. —— a 16.50; *Grain*, Wheat, North, —— a ——; Vir. 1.16 a 1.20; Rye, North, — a 95; Corn, Yel. Nor. 80 a —; Barley, —— a ——; Oats, Sth. and North, .50 a 54; Peas, white, dry, 7 bu. 5. Beans, 7 bu. 7.00 a 8.00; *Provisions*, Beef, mess 7.50 a 8.50; prime 5.25 a 5.50; cargo —— a ——; Lard, 10 a .11; Pork, mess, bbl. 12.25 a 13.25; prime 10.00 a 11.25.

GARDEN SEEDS.

A full supply of fresh garden seeds for sale at the office of the American Farmer. Also, Aracacha roots, Quinoa seed and Buffaloe Berry trees.

GIDEON B. SMITH.

BULBOUS FLOWER ROOTS.

The subscriber has for sale a small but elegant assortment of Tulips, early double and single Van Thol, and common kinds; Crown Imperials and Persian Fritillaries; Polyanthus narcissus, yellow and white fragrant; Yellow fragrant and White fragrant; Double and single fragrant Jonquils, &c.

A few of his splendid collection of new Pæonies and Hemerocalises yet on hand. GIDEON B. SMITH.

THE HORTICULTURAL GARDEN OF THE LATE ANDREW PARMENTIER IS OFFERED FOR SALE.

The reputation of this establishment is not confined to the vicinity of New York, but is well known throughout the United States, and different parts of Europe. It is situated two miles from the city of New York, at Brooklyn, Long Island, at the junction of the Jamaica and Flatbush Roads, and contains 24 acres.

The grounds are in a very high state of cultivation, and laid out with judgment and taste. The situation is very healthy, and the view very extensive, commanding the bay, the city, &c. The Garden is enclosed by a pointed stone fence, and inside of that is a hawthorn hedge. The Nursery contains a fine and extensive collection of Fruit, Forest and Ornamental Trees; also a splendid collection of Roses and Herbaceous Plants,—the object of its late proprietor having always been to collect every new variety.

On the premises are a Dwelling House, two Laborers' Houses, seven Cisterns, and a never-failing Pump of excellent water—four Green and Hot Houses, containing a rich variety of rare exotics.

The advantages to be derived by any person who wishes to engage in the occupation of gardening, by the purchase of this property, are very great: the business already secured is very extensive, and the prospect of increased encouragement is such as to warrant the belief that the purchase of the property will amply repay the enterprise of any one who may engage in the business.

Terms will be made known by applying to Mrs Parmentier, on the premises.

N. B. Mrs. P. will receive and execute all orders.

AGRICULTURAL WAREHOUSE AND SEED STORE.

The subscriber feels much pleasure in returning his thanks to the public for the very liberal patronage given to his agricultural establishment during the past year. The increased demand for the Davis Ploughs, and the still much greater increase in the demand for his *Patent Cylindrical Straw Cutters*, is highly flattering to him, as it not only expresses the confidence which the public have placed in him, but proves that his patrons have not been disappointed. He hopes that he may yet be rewarded for the six years time which was spent entirely in making his improvements in the Straw Cutter, and eight or ten years more in introducing them to the public. Having now, upwards of four hundred of them in use in the various parts of the U. States, and to the entire satisfaction of all who have them, he can recommend them with the fullest confidence.

He has a pretty general assortment of Agricultural Implements, and of the most approved kinds, and such as he trusts, while he recommends them, they will also recommend themselves on trial. Also, a general assortment of Garden and Feld Seeds, &c. &c.

J. S. EASTMAN,
Jan. 3, 1832. Pratt street near Hanover.

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BALTIMORE PRICES CURRENT.

Baltimore Market. Were it not our habit to say something by way of a review of the market each week, we should at this time allow our quotations to go to the reader in silence; for indeed there is nothing doing, no change, and of course nothing requiring notice. Howard street flour still commands $5.25 from wagons and from the Rail road. We shall probably soon have to quote the *Rail Road price* instead of wagon price of this article.

Tobacco.—Seconds, as in quality, 3.00 a 5.00; do. ground leaf, 5.00 a 9.00.—Crop, common, 3.00 a 5.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 10.00; yellow and red, 8.00 a 14.00; yellow, 14.00 a 16.00.—Fine yellow, 16.00 a 20.00.—Virginia, 4.00 a 5.00.—Rappahannock, 3.00 a 4.00——Kentucky, 3.50 a 8.00. The inspections of the week comprise 6 hhds. Md.; 17 hhds Ohio—total 23 hhds.

Flour—best white wheat family, $6.75 *a* 7.25; super Howard-st. fresh 5.37½ *a* ——; city mills, $5.00 *a* 5.12½ *a* ——; Susq.— *a* —; Corn Meal bbl. 3.50; Grain, Md. red wheat, 90 *a* 1.08; white do. —— *a* ——, Susq. —— *a* —Corn, white, 63 *a* 65—yellow 63 *a* 65—Rye, 84 *a* 85 —Oats, 40 *a* 45.—Beans, 75 *a* 80—Peas, 65 *a* 70—Clover-seed 5.00 *a* 5.50—Timothy, 2.50 *a* —— Orchard Grass 1.50 *a* 2.00—Tall Meadow Oat Grass 2.00 *a* 2.50—Herd's, 75 *a* 1.00—Lucerne — *a* 37½ lb.—Barley,—Flaxseed 1½ *a* 1 5-8-Cotton, Va. 7½ *a* 9-Lou. 9 *a* 12—Alab. Sa. 10—Tenn. .7½ *a*. 9; N. Car. 8 *a* .9½-Upland 8 *a* 10—Whiskey, hhds. 1st p. 27½ *a* 28; in bbls. 32 *a* ——Wool, *Washed*, Prime or Saxony Fleece 49 *a* 57; American Full Blood, 47 *a* 55; three quarters do. 41 *a* 47; half do. 35 *a* 41; quarter and common do. 32 *a* 35. *Unwashed*, Prime or Saxony Fleece, 30 *a* 34; American Full Blood, 27 *a* 30; three quarters do. 25 *a* 27; half do. 22 *a* 25; quarter and common, 19 *a* 21——Hemp, Russia, ton, $225 *a* –; Country, dew-rotted, 5½ *a* 7c. lb. water-rotted, 7 *a* 9c.—Feathers, 37 *a* 37½; Plaster Paris, per ton, 4.75 *a* ——, ground, 1.37½ *a*— bbl. Iron, gray pig for foundries per ton 33.00 *a* ——; high pig for forges, per ton, 28.00 *a* 30.00; bar Sus. per ton, 72.50 a 80.00.—Prime Beef on the hoof, 3.25 *a* 4.25—Oak wood, 5.00 *a* 6.00—Hickory, 6.50 *a* 7.00.

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AGRICULTURE.

(From the British Farmer's Magazine.)

PRIZE ESSAY,

At the Liverpool Agricultural Society's Annual Meeting, 1831.

BY THE REV. HENRY BERRY.

The great access of knowledge, during late years, on all subjects connected with an improved system of rural management, includes, among its numerous beneficial results, that of an improved breed of cattle. The advantages attending such improvement will be better understood, and more justly appreciated, if we reflect, that, while superior modes of tillage, accomplished by the introduction of superior implements, skilfully applied to their several peculiar purposes, have tended greatly to increase our agricultural produce, improved breeds of cattle have also sprung up, which, with increased quantities of vegetable, or other food, applicable to their support, actually require less for the purposes of rearing, or fattening, than was the case when the productions of the soil were less abundant. It is hence apparent, that the advantages derived under such circumstances are two-fold, and therefore, perhaps, it is not unreasonable to hope, that agriculture, with adequate protection, and the encouragement afforded by numerous societies, established throughout the kingdom, will, for ages, continue to multiply the blessings of increase to a still growing population.

With a laudable desire to extend the limits of useful knowledge, the Liverpool Agricultural Society has proposed the breeding and rearing of cattle, as the subject of an essay; and the writer of that now submitted to consideration, conceives he cannot better promote its object, so far as his abilities allow, than by excluding from this paper every thing of a fanciful or merely theoretic nature, and adhering to what experience has taught him to consider useful facts.

It is fortunate for improvers of the present day, that so long a period has elapsed since this peculiar branch of farming business first attracted notice, that the results of experiments are now before them; and to such as institute due inquiry, before entering on a course of vast importance, the mistakes of others hold out a warning, which prudent men will not disregard. It may be necessary, however, to caution even such, against drawing hasty general conclusions. It is true, we may often—and in breeding such is particularly the case—be called on to admit the existence of effects, without being able to assign causes clearly or satisfactorily; and where such effects are general and uniform, we may, and ought, in prudence, to decide accordingly: but, still, it will frequently be found, that, by attentive observation, causes may be detected; and we should, therefore, always diligently seek them, because in breeding, the detection of a cause of evil, is pretty nearly, if not quite equal, to the discovery of a remedy.

The first principle in which the improver of cattle will find the means of attaining his object, is the well known rule, that "like will beget like;" a rule which applies with equal force of truth to good and bad animals—to good and bad qualities; and that the breeder's attention and skill will be most apparent, and best rewarded, who so manages the breeding of his stock, that the good shall preponderate in a considerable degree. Various opinions are entertained, as to the most proper form of animals, just as breeders happen to have adopted the kinds which prevail in different quarters of the island; and it is not uncommon, to hear men, by no means generally deficient in judgment, requiring the characteristics of one breed in another totally different; whereas, it is quite clear, that to assert—a short-horned bull is the model by which a Hereford, or long-horned, or Devon bull, should be formed—is an absurdity; nothing being better known to men of experience than the fact, that could such similarities be found, they would constitute a departure from rule, and create confusion and uncertainty in a stock, in which, so far as possible, order, uniformity, and certainty ought to predominate. These remarks, it is true, apply principally, though not wholly, to characteristics which may be styled non-essentials; but the prejudice which has rendered them necessary is widely spread, and, if not resisted, may produce infinite mischief. To the existence of this prejudice it is owing, that every breeder, of tolerable experience and success, has had visitors to his stock, who have highly approved all the individuals composing it, except his *bulls*. They reflect not that the proper service of a bull is to beget good stock, and that the breeder who succeeds in producing such is the best judge what description of male will answer his purpose. In short, adopting the wrong conclusion—that similar features ought to prevail in bulls of every breed—they overlook the evidence of facts, neglecting the only test by which accurate opinions may be formed. It is granted there is one description of form essential in all animals, and, if possible, never to be dispensed with, though cases do sometimes occur to the contrary.* But what Hereford breeder would enforce conviction, if he argued, that because considerable *throatiness*, as it is termed, is a characteristic of the pure Hereford bull, therefore it is requisite in a shorthorn? Or, on the other hand, would the shorthorn breeder obtain credit with his opponent, if he told him the Herefords ought to have the characteristic cleanliness of throat of the shorthorn? The fact is, each knows that it is essential to preserve the characteristic features of his breed. The Hereford breeder is aware, that to reduce his bull to the shorthorn standard, as to throat, would probably have the effect of producing a delicate and puny race of calves, not because this throatiness confers constitution, but because its presence denotes the animal not degenerated from his kind; while it is equally well known, that one of the principal improvements in shorthorns having consisted in reducing a large coarse breed of cattle to something considerably finer and smaller in the offal, the adoption of the Hereford scale for the males of that breed could not be made without incurring great risk of a relapse to the original coarseness. It may appear that more has been said on this subject than is necessary, but the writer considers it of paramount importance to judge of a bull independently of all consideration, except that of the stock he is to breed with, and, where it is possible, the young stock he may have begotten.

With respect to essential form, the same rule will apply to the cow as to the bull, whatever the breed, allowing for the difference in point of coarseness incidental to the different sexes. A butcher, appealed to on this subject, would probably decide the best form to be *that which furnished the most profitable stall of meat*. Breeders, who once held a similar opinion, have been taught by experience, that other considerations are to be kept in view. They have found, that with a preponderance of the best parts for the butcher, it is necessary to unite a peculiarity of growth, which, as indicative of, and co-existent with hardy constitutions, furnishes also a recommendation and security to the breeder. It matters nothing to the butcher what losses may have occurred in the stock from which he purchases. He pays only for what he receives, while the breeder, in consequence of frequent losses, unfortunately parts with more than he is paid for. Hence has been forced on him the necessity of attention to constitution, or such a degree of hardihood in his stock, and freedom from hereditary disease, as will enable his animals to endure vicissitudes of climate, and secure him from the innumerable evils which arise from hereditary taint. This has been found absolutely requisite, and it happens, fortunately, that a compromise between the interests of the butcher and breeder is easy, all, really essential to the views of the former being practicable, while the welfare of the latter is rendered comparatively secure. The question then, will be, what is the *essential* form of neat cattle?

Whatever may be the breed of cattle adopted with a view to future improvement or present advantage, the person selecting will do well to secure in his animals the following recommendations as to form, viz.—wide and deep girth round the heart and lungs—broad level loins, extending their width well forward—large, long, and as much as possible, hooped ribs, setting close into, and leaving little space between them and the hips, which latter should be round, large, and full in the hand—deep large flank—twist full and low, allowing as little light as possible to be seen between the thighs, and extending their junction, the nearer the hocks the better—legs short, the bone not being so fine as to indicate delicacy of constitution. Other perfections of form there are, which, being more dependent on individual taste and fancy, and such as the eye in search of a level good-looking frame will easily supply, it is not deemed particularly necessary to notice. The position of the shoulders must not, however, pass unobserved. This, according to general opinion, should incline to that of the horse, falling back rather than standing upright, while the points should not be large and projecting, but well covered, and hidden by the neck vein. Such position of the shoulders, it is admitted, is extremely desirable, and perhaps preferable; but inasmuch as many, if not the majority of our best animals in other respects, are defective in this, it becomes worth while to consider the question, whether any great sacrifice should be made to secure the required obliquity of the shoulders? The writer, with deference, submits, that such sacrifice ought not to be made. It is a result of much observation on his part, that animals with the widest and heaviest fore quarters, are those with upright shoulders; and he also is of opinion, that the position does not affect the coarseness or lightness of the offal of this part, because, should the blades appear coarser, little reflection is necessary to ascertain that to be owing to their standing wider apart; while he has observed that the shoulder points in such cases are equally well covered by the neck vein, and consequently, project as little as when the position is more oblique. Perhaps, then, the best course to adopt with reference to this question, will be to avoid *coarseness*, and the *extreme* of the upright position; and in animals of equal pretensions in other respects, to give the preference to the oblique shouldered, because there is probably a tendency, should this point be too long neglected, to fall into an objectionable extreme.

Of the foregoing observations, on what the writer considers essentials of form, his recommendation of short legs, with bone not too fine, will probably be dissented from. The transition from absolute coarseness to remarkably fine bone, has at all times obtained the warm admiration of the superficial observer. It is an improvement so easily traced by the most unpracticed eye—it works conviction on the *consumer*, through the medium of the *pocket*, so fully and irresistibly, that it may well appear a forlorn hope to endeavour to destroy the delusion. The advantages of a considerable reduction of the bone are fully admitted, as one of the great triumphs of improved breeding. But if, from unduly over-valuing such reduction, it has been pursued beyond the bounds of expediency and safety, which the writer thinks it has, then this caution is not interposed without reason. A case of this kind is difficult of proofs, and the bounds of an essay almost preclude it; and it must depend solely on the rationality and consistency of the writer's remarks, whether the result of his experience be adopted in the absence of that proof, which the case scarcely admits of. They who shall happen to read his paper, will, of course, be bound by no opinions therein stated—they will use his cautions or reject them, as better information may dictate; but on this question, he feels bound to record the fact, that he has almost invariably found *extremely* small bone an accompaniment of, and one of the marks denoting delicacy of constitution, and general degeneracy. It is difficult, almost impossible, to argue successfully against prejudice, and it will not here be attempted; but confident in the correctness of his conclusion on this head, the writer, who is also a breeder, has acted accordingly; and while he avoided coarseness, has, with the happiest results, taken care not to be misled by the *ignis fatuus* of *extremely* small bone. Let such as feel interested make similar observations, and he doubts not they will adopt a like conclusion.

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* It is possible that bulls defective in *essential* form, may get perfect stock; but this will probably be owing to their descent from very perfect animals, and the coupling them with very perfect cows; in which case the ill effects of accidental mal-formation may be avoided. But it will always be more safe and sure to reject such bulls, and leave as little as possible to chance.

Many persons entertain an opinion, that it is impossible to obtain great weight on short legs, while many others—to their disgrace be it written—defend the opinion, without really entertaining it. This remark has been more particularly called forth by the recollection of a circumstance which once occurred to the writer. On the occasion alluded to, he inspected the stock of a very celebrated man, an advocate, for these obvious reasons, of animals on long legs. A number of bulls were paraded forth on the occasion, but every one of them carefully led, while out, up to the belly in straw! Is commentary necessary?

No doubt can exist, that while equally great, if not greater, weights can be obtained with shorter-legged animals, they are, independently of other recommendations, generally found to possess better constitutions, and greater propensity to fatten. It is the width and depth of frame which confers weight, and not the mere circumstance of great height. The writer lately exhibited what is generally considered a very small cow, bred on the principles here advocated, to a well-known judge of such matters, Clarke Hillyard, Esq. President of the Northamptonshire Farming and Grazing Society, with a request that he would state his opinion as to what weight she would make with fair feeding. The reply was, "fifteen scores per quarter!" Presuming sufficient consideration to have been given to the subject of essential form, it will now be proper to notice other necessary particulars. The assertion may be received with surprise by many persons, but will not be contradicted by those who are well informed on the subject, that the disposition of a cow to thrive rapidly when put to feed, will depend on the quality of her flesh, and it is in discriminating this essential requisite that one mark of superior judgment is manifest. The quality of the flesh, again, will be found, if not to depend on, yet to be almost invariably accompanied by certain peculiarities of the hide and hair. It will be sufficient to notice two of these. A thin hide, covered with a profusion of hair, full and soft to the touch, will generally be found to accompany an extremely mellow quality of flesh, and these probably denote the quickest feeders. Animals possessing such qualities handle well, as it is termed, in their poorest state; that is, there is a depth of flesh to be felt upon them, on the hips particularly, which, other things equal, will not be found in other animals. It is considered, however, that quick feeding may be purchased by too great a sacrifice. For instance, such thin skins, and very delicate quality of flesh, too frequently accompany delicacy of constitution, while the attacks of flies are rendered doubly annoying by the extreme susceptibility of the hide, which is unequal to afford the requisite protection. The flesh of such beasts also, when slaughtered, does not, in the process of cooling, set well, and it may be seen, in hot weather particularly, retained in any form with difficulty, and the slightest touch will set the whole in motion. This, neither the butcher nor consumer approves. For these reasons it becomes necessary to refer to the other quality alluded to. This will be met with in the beast of thicker, or medium hide, with probably an equal quantity of hair, flesh of fine quality, but not so loose as the other. This animal will thrive quickly enough for any purpose; its meat will be more firm when living and dead, and it will, comparatively, suffer little from the teasing of flies. And it is probable, that owing to the latter circumstance, it will feed as quickly, if not more so than the other, during the summer months, and while out at grass. The greater thickness of hide affords also a greater security against cold, and hence, if there be not absolutely a better constitution, there is less chance of its powers being put to the test. This is the description of animal the writer would recommend. He has tried the other, and experienced the results stated. He then fell into the common error of experimenting with the extreme, but never could succeed in obtaining an animal with an *extremely* thick hide, capable of quick feeding, or possessed of that excellent indication—a thick rich coat of hair. He cannot conclude this part of his paper without an endeavour to impress most strongly on the reader, the great importance of attending to the quality of flesh, and its accompaniments of hide and hair. Superior form without them is of little value, while much of what is *commonly* considered requisite in form may be sacrificed to secure these valuable properties. In short, though constitutional growth must not give way to them, yet, in their absence, even constitutional growth becomes of comparatively little importance. If it be expected the writer should more minutely describe this quality of flesh, on which he asserts so much to depend, he candidly confesses he has always found it indescribable; but this is certain, few who have once handled it, will easily forget it; and to the evidence of their own fingers he must refer such as feel interested to obtain information.

The indications of good milking are so well known, it is not requisite here to describe them. It may not, however, be amiss to remark, that in a breed of cattle improved greatly in the quality and quantity of flesh they carry, equal attention may not have been paid to milk, as to those matters; and it may be as well for the person selecting, with a view to acquiring a superior stock, to ascertain that he selects from a family in which good milking prevails. On this topic a fact shall be stated, of which the reader may make what use he pleases. It is considered objectionable to have a cow gutty, or great in the body; and certainly, where this exists in the extreme, it is unsightly at least. The writer, however, has seldom seen a great milker without this peculiarity, so true is it, that in laying down rules for form, dictated by the fastidiousness of the eye, what may be essentially useful is too often disregarded.

It is believed that a stock bred upon the principles here advocated, cannot fail to prove productive of advantage, equal at least to that which may be derived from a system more according with the fashion of the day. Fashion patronises the producer of showy, and what are termed, elegant animals. These once had their warm admirer in the writer, but the experience and the losses of some years have taught him to disregard elegance *without usefulness*—to conclude that a stock of cattle ought to be profitable under economical management, and not barely exist under every attention to accommodation and food. In short, he has endeavoured to breed such a stock as should, in every sense, meet the difficulties of the times, and if the depressed state of agriculture required it, should be able to endure the severest hardship and privation which cattle, bred with a view to the ordinary scanty measure of remuneration, must frequently undergo. On any other principles he could not have succeeded, and to this is owing the frequency with which he dwells, perhaps to tediousness, on the absolute necessity of hardy constitutions

(To be continued.)

LIME.

[The following is the report of a discussion at the Manchester (Eng.) Agricultural meeting in October last, on the question, "what are the general properties of lime, and the best mode of its application as manure," published in the British Farmer's Magazine:—]

Mr. **Ogilvie**, steward to Mr. Brooke, of Mere, after dwelling at some length on the advantages of a knowledge of chemistry to the agriculturist, and referring to Sir Humphry Davy's work on Agricultural Chemistry, said that in his (Mr. Ogilvie's) opinion, lime was no manure, but a mere stimulant. It was no more a manure to land, than the medicine given by a medical practitioner to a patient was food. He had laid very great quantities of lime for the last fifteen years, and the period was from the 1st of April till about the 1st of October—never later; and then always in a caustic state, by which means it destroyed any salts of iron that might happen to be in the soil, and it also decomposed the inert vegetable matter, the soil thus becoming, as it were, a laboratory for the preparation of the food of plants, as well as a sort of depot for that food, which it gave out as they required. His mode of applying lime had been to lay it on tilled or arable land, before the two last furrowings; supposing the summer to have five furrowings, he usually put it on after the third. After having slaked the lime he spread it on, and immediately harrowed it in, without allowing it to get a single night's dew; and he never spread over more of the surface at once, than could be harrowed in that day. After the field had been all harrowed and ploughed over, he allowed it to lie a week or a fortnight, then harrowed it again, and applied the vegetable or putrescent manure, which he ploughed in, by which means the lime was ploughed up again, well mixed with the soil, and, consequently, the action between the lime and the dung was not so great, as if they had come into contact before the admixture with the soil. As it was with iron filings and undiluted sulphuric or nitric acid, so would it be with lime and dung; when brought into contact, the greatest part of the manure would go off in the form of gas into the atmosphere. If the acid were diluted, the action would be gentle; and this would be the case by the mixture of lime with the soil, when acting upon the dung. But besides this chemical action exerted by lime, it also acted mechanically upon the soil, separating and making it more friable; and it was, therefore, very useful in that respect. But, unless close to a limekiln, he would never apply lime alone to grass land, but would mix it with either soil or peat earth, when the soil so mixed became an absorbent of the gas generated by the action of lime on the vegetable matter, and also a depot for the food of plants.

Sir **George Crewe** said, that it so happened that he had very considerable property in a district where no other manure than lime was used, and he lived, indeed, only about three miles distant from two sorts of lime, one of which was highly noxious to vegetation, and the other the best manure in the world. There were several points which the gentleman who opened the discussion had not adverted to, but which, nevertheless, were well known to every farmer who used lime between this town and the district in which he (Sir G. Crewe) lived. He believed it was acknowledged both by chemists and agriculturists, that the best lime for the purposes of agriculture was to be found in those districts where it was most wanted. Such seemed to be ordination of Providence, for which blessing they ought to feel thankful. In Derbyshire lime was employed both for arable and pasture land, but in Staffordshire solely for pasture. Without being conversant in chemistry, it appeared to him that lime, when calcined and brought into a state fit for use, while it was destructive to weeds of every description, was highly nutritive to those grasses which agriculturists most wished to see flourish. The common farmer knew not why he limed his field, but he knew that by doing so the weeds and rushes disappeared, and that he had a fine delightful crop of grain in the room of what he could make nothing of before. He, therefore, trusted that those who had not time for studying chemistry would take for granted the good effects of lime, and make the experiment of its use. In his own neighbourhood this year there was scarcely any eddish; the grass had no bottom to it; but where he had been spending five weeks in Staffordshire, where lime was used in the pastures, he found a most beautiful eddish, full of under clover and a variety of plants, sufficient to furnish substantial food for several months; and this he believed to be entirely owing to the influence of lime. In conclusion, the worthy baronet strongly pressed upon every farmer who had lime within his reach, to make trial of its beneficial effects.

Mr. Wm. Stickney, of Ridgmont, said that lime was much used in the district from whence he came (Holderness.) It was brought a distance of sixty miles, and he was himself in the habit of using four or five vessel loads a year. He thought it acted both chemically and mechanically—mechanically by lightening and pulverising the soil. With its chemical action he was not sufficiently acquainted to speak, but he thought it would be well worth the while of this society to make Mr. John Dalton, of this town, an honorary member; for he knew no one better qualified to explain the chemical action of lime and other substances. He (Mr. Stickney) had found that when lime was bountifully applied, the soil required much less labour in cultivation, and the appearance of land which had been limed, might be observed and distinguished at a great distance. In Holderness, lime was also found of great advantage in the destruction of the small grey snail, called the *slug*, which was very pernicious to the crops of clover or beans after wheat; and, therefore, the land in that district was generally dressed with lime previously to laying down for these crops.

Mr. Dixon, of Oldham, detailed an experiment he had made three or four years ago with lime. He had mixed about a hundred horse loads of lime with soil upon a headland; it became in a very fine state; in a fortnight he turned it over, and laid it on in a warm state. It had now been on the land three years, and he saw no difference in the land, which was a wet heavy soil. On another part of the land he had laid putrescent manure, and this was now a deep dry soil. In his opinion, lime was but of little use on wet land; and that neither lime nor putrescent manure, singly, would produce so heavy a crop as when combined. He acquiesced in the remark, that lime was most plentiful where it was most wanted, which bore out the truth of his assertions; for lime was most plentiful on dry soils.

Mr. William Hancock, of Disley, next addressed the meeting. The lime in the chalk lands of Hertfordshire was not one-tenth of the strength of the Derbyshire lime. He was of opinion, that lime was the best possible manure for land in the counties of Lancaster and Chester.

J. Isherwood, Esq. of Marple, was of opinion that lime very much improved dry soils, by bringing into active and lively operation certain inherent qualities which had previously lain dormant, unprofitable, and useless, in the soil. As to the practical utility of lime as a manure, he thought it ought by no means to be applied to summer fallows, which was its general application in this district; for if it were wet a season, the horses ran great risks of being injured by its heat; and the wheat was also in danger of suffering when sowing, by the lime being too hot. He would lay lime upon pasture grounds two or three years previously to converting the land into tillage; and then follow it up by a corn crop or two, but by no means with cabbages, potatoes, or turnips. He would apply from 80 to 130 cwts. to the acre, according to the state of the land. He would apply it at any time, except in frosty weather. He concluded by observing, that it was the nature of lime, after producing a good crop, to leave the land in an exhausted and barren state.

Mr. Webb thought that without draining the land, it was wasting money to lay lime upon wet soils. He did not coincide in the opinion of the last speaker, that lime did no good in summer fallows; he considered that if it were laid on after the third fallow it was impossible that it should do harm to the horses. It might, however, do harm to the corn, if any one were so improvident as to lay it on the land immediately after sowing.

HORTICULTURE.

(From the Library of Useful Knowledge.)

PLANTING.

(Continued from page 334.)

CHAPTER V.

Of the most approved Modes of preparing different Soils for the reception of the Plants—Fencing, Draining, Ploughing, Trenching. Of the formation of Rides or Carriage-Ways into the interior of Plantations. Of the best Mode of covering these with Herbage.

In no improvement of landed property is economy in the first outlay of capital more essentially required than in forest planting. Want of attention to this important point has caused much loss to the country as well as to individuals, it having had the effect of discouraging forest planting generally, and more particularly of those lands emphatically termed wastes. The evil is perpetuated by statements confounding the expenses of planting different descriptions of land, such as that of a superior soil immediately connected perhaps with a mansion, and that of a distant hill or waste heath. In the former case the return of produce is early, great, and fully ample for every expense judiciously incurred in the plantation; while, at the same time, something must be allowed for obtaining the more immediate ornamental effect of wood. In the latter case the returns of profit are more distant, though equally certain, and the outlay of capital or expense of formation proportionally less. To estimate or make them equal to those of the first description of land, would be absurd, because unnecessary, and, in fact, impracticable, as in the case of rocky sites or thin heath soils, where the more expensive processes of the preparations of soils cannot be carried into effect. To say, therefore, that land cannot be profitably planted under a first outlay of ten pounds sterling an acre, or that the expense of planting should not exceed two, or at most three, is equally erroneous; although both statements, individually with reference to local circumstances, may be perfectly true and accurate.

Fencing is one of the most expensive but essential concomitants of planting; for unless young trees are completely protected by proper fences, extensive failure will be the certain consequence.

In general the materials fit for constructing plantation fences may be found on the spot. On sandy heath soils, the turf interwoven with the roots of heath or coarse herbage affords a ready and cheap material. We have seen a wall or *dyke*, built entirely of turf, last for a great number of years without wanting any repairs whatever. The turfs were cut to the depth of from three to five inches; according to the depth they were pervaded with the tough roots of grasses and heath, which tend to keep them firm and less assailable by the weather. This wall of turf was two feet wide at the foundation, and four feet and a half high, terminating at sixteen inches in thickness at the top. The turfs were built in rows alternately edgeways, and flat with the turf side downwards. The coping consisted of a row of turfs laid with the grass side upwards, and this continued permanent for many years. When the soil is clayey, or of a texture liable to crumble by the effects of the weather, banks are thrown up four feet wide at bottom, four feet and a half high, and eighteen inches wide at the top. On the top a double row of furze should be sown, and the face of the bank defended from cattle by driving in stakes of forked larch or thorns, from two to two feet and a half in length. These stakes may be fixed in the bank about a fourth of the whole height of the bank from the furze, and pointing obliquely upwards. Where these stakes could be conveniently procured about the thickness of an inch and a half or upwards, we have found them to answer the purposes of a protection to the furze remarkably well: these are the cheapest modes of fencing a plantation. Where stones fit for building a dry stone wall prevail on the site, they may be used with great advantage for constructing the fence. In building a dry stone wall, i. e., without mortar or cement of any kind, it is of importance that occasional courses of stones of a size to reach across the thickness of the wall should be laid in: these act as ties, and render the wall strong and lasting. The coping is another point of importance to be attended to: the best coping is that composed of flat stones placed edgeways, and made compact and immovable by driving in wedges of stone at such distances from each other in the coping as will produce the desired effect, and a very little experience or practice will teach the workman to place these wedges in their proper points. The expense of constructing this kind of fence varies according to local circumstances. The cost of fences of this description is stated by Sir John Sinclair in his highly valuable work, the *Code of Agriculture*, to vary from 4*s.* 6*d.* to 6*s.* the perch, which agrees with the results of our inquiries and experience on the subject.

When neither of the above simple fences can be conveniently adopted, a *quick* or thorn hedge is the most generally used, and in fact is the best and cheapest. There are several kinds of *quick* fences, which differ merely in the mode of planting the thorns (*Cratægus oxycanthus.*) The white thorn is a plant much checked in growth by every other, whether herbaceous weed or shub, that mingles with it in the soil. It delights in a strong loam, on poor sands, or damp clay; its growth is much slower, and requires great attention in the preparation of the soil, in the selection of the plants, and in the mode of planting. It must be carefully protected from cattle and rabbits, which, by nipping off the tender first shoots of the spring, seriously injure its growth, and defeat the intention of raising an effective fence at the least cost, and in the shortest space of time.

On poor sandy soils, the depth of earth for the reception of the plants should be made as great as possible, and they should be placed on the top of the bank. Manure of rotten leaves, compost of marl or clay, and dung, ashes, or any substance that will enrich the line of plantiog, should be dug in if possible for the encouragement of the roots of the young quick. Where the soil is damp and clayey, planting the thorns on the face of the bank is the best practice. The ground should be perfectly clean, or the cost of weeding it afterwards will be considerable, and the fence will make little progress, if it do not fail altogether.

The cost of the manure above alluded to will be amply repaid by the more rapid growth of the quick, saving much of the expense of weeding, and of filling up blanks and gaps in the hedge, which always accompanies the rearing of this kind of fence on poor or badly prepared ungenial land. The size of the plants deserves particular attention, for by planting strong three year old transplanted thorns, the success of the fence is secured, and the distance of time for its completion shortened by three years. To protect the thorns from cattle, a ditch with post and rails are adopted. When rabbits abound in the neighbourhood of a young quick fence, they are often very destructive to the plants. The means of preventing these animals from having access to the young thorns is too expensive to be adopted for forest fences. A row of thickly planted dead hedge on each side of the row of quick, is, perhaps, the best temporary protection; but the most effectual mode is to keep down the number of the rabbits, or, if possible, to take them away altogether.

When stones can conveniently be had, the facing of the bank with these, and planting the quick so as to spring through the wall, forms the most secure and lasting fence. The expense of weeding is saved by it; and, under such circumstances, the plants generally make great progress.

In the management of the hedges when planted, weeding is most essential, for if coarse grass or rampant weeds are suffered to mingle with the lower branches and foliage of the quick, the injury is very considerable. The top of the hedge should be kept level from the first cutting, until the plants have attained to the desired height. The sides of the hedge ought to be kept also of an even surface; by shortening the side branches every year to within an inch more or less of the preceding year's wood, the bottom of the hedge is maintained equally thick and impenetrable with the upper portion. The most generally approved form of a hedge, is that of the hog's mane; however, if the soil has been properly prepared, the plants selected of the largest size, and the keeping clear of weeds, and most judicious mode of pruning persevered in, the hedge will flourish in every shape.

By keeping the top of a hedge level, it is not meant that all the plants should be shortened in the leading shoot of the stem, but only those which overtop their thin neighbours. If this be properly attended to, the evil effects which follow the practice of shortening without exception the leading shoots of every plant of the hedge will be avoided, as well as those which occur when the upright growth of any plant is left uncontrolled until it reach to the desired height.

Where a hedge has been neglected, is overgrown and irregular, the best mode is to cut it down level with the soil, and then to dig the earth about the stumps, inserting plants of strong quick in the gaps where they occur. It may happen that the fence cannot be dispensed with, for the time the young shoots from the old roots require to renew the fence. In this case, the mode of cutting a fourth part of the stems to the desired height, and another fourth part a few inches from the ground, and warping the remainder with these, is found a useful practice.

Besides the white thorn or quick, and the furze (*Ulex europæus*,) there are many other shrubs which may be planted under certain circumstances with effect as fences. In exposed cold soils, the Huntingdon willow, beech, birch, and alder, may be used with advantage.

It may be unnecessary to mention, that where larch poles can be had, they afford an excellent material for fencing, particularly when used with the bark, which tends to preserve the wood from the effects of moisture and air.

Draining is essential wherever stagnant moisture prevails in the soil. Boggy lands and tenaceous clays are chiefly the soils which require it, for trees will thrive in a degree of moisture that would be highly hurtful to the nutritive grasses, and to corn crops. Under drains are of little service for forest-trees, as their roots soon render these ineffective. In general, therefore, open cuts should be used. Where the excess of dampness is caused by springs, as in most bogs and morasses, it is essential to ascertain the source of the principal springs which feed the secondary ones, and their numerous outlets over the surface. Sub-aquatic plants, as the alder, rushes, &c., often point out the spots where the search should be made, although these plants are frequently supported by stagnant surface water. Boring with the auger is the best mode of ascertaining the source of the spring, or at least that level of its course in the strata which conducts the water to the boggy land, and where it can be effectually cut off from supplying the secondary springs and outlets in the lower levels. When the source is ascertained, a drain should be cut to the depth of the strata through which it passes, so as to obstruct its progress. It should be made sufficiently deep, or the water will continue to pass under it, and the work will be useless. From this main drain formed across the declivity, other secondary drains should be made to conduct the water thus collected, from the source to the most convenient outlet. It would be incompatible with the space of these pages to enter into details of this subject. Elkington's mode of draining, as given in Johnstone's Treatise on the subject, is on the above principle, and shews with precision the advantages of it, and with how much facility lands, which by the old method of draining were considered incapable of being profitably improved, may be made fit for planting and returning a valuable produce of timber.

Clayey soils which are rendered barren by surface water stagnating upon them, may be made to produce valuable timber by the simple process of constructing open drains, and forming the surface between these into ridges, as before mentioned in Chapter III.

On steep acclivities, rocky soils, and thin heath, or moor lands, incumbent on rock or shale, where ploughing or trenching is impracticable, a depth of pulverized soil cannot be obtained for the reception of the roots of trees of more than two, or at most three year's growth; the mattock planter, diamond dibble, and spade, can be used with the best effect. To attempt any more expensive preparation on such lands, than may be made by these implements for the reception of the individual plants, would be injudicious. The number of valuable woods which have been reared in this way, are too generally known to need particular mention here. The cost may be stated to be from two to five pounds per acre. For the preparation of heath soils, incumbent on sand or loose gravel, an improved paring plough, which we call Fyshe Palmer's planting plough, is a valuable implement.

The plough consists of two mold boards as in common use, but resting on a triangular and somewhat convex plate of iron. This iron plate is furnished with sharp steel edges riveted to it. The fixed share which divides the turf for each side of the double mold board, is six inches high at the shoulder, with a sharp edge tapering to a point. The sole of the plough is screwed and bolted to the instrument by the bolt sockets and the nut screw sockets. The base of the triangular plate is twenty-one inches, with a curve of one inch, which facilitates the action of the instrument when paring in gravelly or stony ground. The whole length of the plate is thirty-five inches from the base to the point of the share. Wherever the land is of a moderately level surface, and when paring is desirable, this plough will be found a valuable implement. The whole surface may be pared as in clayey soils, where burning the turf is essential; or spaces of twenty-one inches, as in heath soils, may be pared off with intervals of thirteen inches, on which the reversed turf may rest to decay, and become food for the roots of the trees. When the soil is of sufficient depth to allow of trenching, the common plough, following the track of the paring plough, will effect this object at a comparatively small expense.

Much difference of opinion prevails on the comparative advantages and disadvantages of trenching ground for forest trees; nothing is more certain than that trenching and manuring is more advantageous to the trees than holing, or any other mode of preparation. But there are certain soils which will produce valuable timber, and that cannot be ploughed or trenched; these have already been mentioned: there are others which are capable of receiving benefit from this mode of preparation, but where it would be inexpedient to bestow it. There is one instance in which trenching cannot on any account be dispensed with, which is that of ground near a mansion, where the value of trees in respect to landscape effect, shelter, shade, concealment, and the improvement of local climate, have equal if not superior claims to that of the actual value of the timber produced by the individual trees of the plantation. The question as regards other sites and soils, intermediate between these two now mentioned, and of a nature as regards texture and quality similar to the soils described in Chapter IV., under the numbers 3, 4, 5 and 6, which are capable of rearing mixed plantation, or a variety of different species of forest trees in perfection, the process of trenching or ploughing, and also manuring when possible; ought to be adopted. In this instance, however, it is highly necessary; before adopting the more expensive preparation, to ascertain exactly the cost of each mode of planting, and the probable return of profit from the outlay. As many local circumstances interfere with the performance of these different processes, as the comparative cheapness of labour, of manure, the facility of obtaining the most proper sized plants, to anticipate two or three year's earlier return of produce, &c., it would be of little use here to give any calculations of expense and profits, as data by which to estimate the results of either mode of practice, that would be applicable to every soil and site alluded to. Where the local demand for the smaller sized products of plantations are great, the more expensive process of trenching should be adopted, inasmuch as the growth of forest trees to the size of poles, and of materials for fencing, &c., is highly promoted by trenching and manuring, and the returns of profits from these products of planting are in proportion earlier and larger. That this superiority extends in the same proportion to the ultimate produce of timber in trees, may not appear so clear, because it may be urged by those who undervalue trenching and manuring as preparation of the soil for planting forest trees, that there are no satisfactory records of the comparative rate of increase of timber, or of solid vegetable fibre, after the first twenty or thirty year's growth of the different species of forest trees, which have been planted on trenched and manured grounds, and the contrary, being under all other circumstances the same until their last stage of perfection; and yet the truth of such continued superiority of increase, is the only test by which the question can be decided, and an unerring rule of practice be obtained. The results of mere observation, or conclusions drawn from the apparent contents of trees, will not be found to warrant the adoption of any new mode of practice. But the comparative increase and ultimate produce of timber should be ascertained up to the period of the trees attaining to perfect maturity in the most satisfactory manner, by actual admeasurement; and correct records kept of the age of the trees, comparative value of the plants when planted, as to their size, roots, and constitutional vigour at the time of planting; as also the intimate nature of the soil, subsoil, and local climate. In the oak, after the first fifty or sixty year's growth, the annual rate of increase of the diameter diminishes greatly. The Lambert pine tree, (*Pinus Lambertiana*,) mentioned in the *Trans. Linn. Society*, vol. xv. p. 497, exhibited an increase of diameter of four inches and a half only at the base, during the last fifty-six years of its growth.

These last remarks apply to the question generally; but in all cases of exception before mentioned, and in the instances of clayey, tenacious soils, and compact gravelly loams, trenching ought doubtless to be adopted as a preparation for the reception of forest trees.

In order to have at all times the most convenient as well as the most pleasant access to the interior of the plantation, rides or broad drives should be marked out and left unplanted. On heaths and gravelly soils, the surface is in general so level and unbroken as to require the lines or edges of the rides merely to be cut out in the form of a shallow water-course, any inequalities of the surface to be made good with the turf or earth taken out. In damp, clayey soils, the rides should be made higher in the middle and sloping on each side to an open drain, marking the line of each side. The earth should be made fine and sown with the following grass seeds, viz: *Alopecurus pratensis, Dactylis glomerata, Lolium perenne, Cynosurus cristatus. Phleum pratense, Anthoxanthum odoratum, Poa trivialis, Festuca pratensis,* with red and white clovers combined, at the rate of four bushels and a half to an acre. For dry, sandy, heath soils, which can scarcely be covered with verdure, the following will be found effectual:—*Festuca ovina, Festuca duriuscula, Aira cæspitosa, Aira flexuosa, Cynosurus cristatus, Agrostis stolonifera* and *vulgaris, Achillea millefolium, Trifolium minus,* and white clover. Game are fond of these grasses.

(To be continued.)

(From Liudley's "Guide to the Orchard and Kitchen Garden."

ON THE MEANS OF INDUCING FERTILITY IN FRUIT TREES.

Some fruits of excellent quality are bad bearers: this defect is remedied by a variety of different methods, such as, 1. *By ringing the bark;* 2. *by bending branches downwards;* 3. *by training; and* 4, *by the use of different kinds of stocks.* (*a*) All these practices are intended to produce exactly the same effect by different ways. Physiologists know that whatever tends to cause a rapid diffusion of sap and secretions of any plant, causes also the formation of leaf buds instead of flower buds; and that whatever, on the contrary tends to cause an accumulation of sap and secretions, has the effect of producing flower buds in abundance. (*b*) This circumstance, which at first sight seems to be difficult to account for physiologically, is no doubt to be explained in the difference between leaf buds and fruit buds themselves. In a leaf bud, all the appendages or leaves are in a high state of development, and the central part or axis, around which they are arranged, has a tendency to extend itself in the form of a branch as soon as the necessary stimulus has been communicated to the system, by the light and warmth of spring. In a flower bud, the appendages or leaves are in that imperfectly formed, contracted state, which we name calyx, corolla, stamens and pistilla; and the central part around which they are arranged, has no tendency to elongate under the influence of the usual stimulus. Hence, a flower bud, or a flower, is nothing but a contracted branch; as is proved by the occasional elongation of the axis in flowers that expand during unusually hot damp weather late in the spring, becoming branches, bearing sepals and petals instead of leaves It is, therefore, easily to be understood why, so long as all the motions and secretions of a tree go on rapidly, with vigor, and without interruption, only rudiments of branches, or leaf buds, should be formed; and why, on the other hand, when the former become languid, and the parts are formed slowly, bodies of a contracted nature, with no disposition to extension (or flower buds) should appear.

It will be found that the process of the practices above enumerated, to which the gardener has recourse, in order to increase the fertility of his fruit trees, is to be explained by what has just been said. In *ringing* fruit trees, a cylinder of bark is cut from the branch, by which means a return of the elaborated juices from the leaves down the bark is cut off, and all that would have been expended below the annular incision is confined to the branch above it. This produces an accumulation of proper juice: and flower buds or fertility, are the result. (*c*) But there is a defect in this practice, to which want of success in many cases is no doubt to be attributed. Although the returning fluid is found to accumulate above the annular incision, yet the ascending sap flows along the alburnum into the buds with nearly as much rapidity as ever, so that the accumulation is but imperfectly produced. On this account, the second practice, of *bending branches downward,* is found to be attended with more certain consequences.—The effect of turning the branches of a tree from their natural position, to a pendulous or a horizontal one, is to impede both the ascent and descent of fluids, in a gradual but certain manner. The tissue of which branches is composed is certainly permeable to fluids in every direction; and there can be no doubt that the vital action of the vessels of a plant is performed both in the natural and in an inverted position. So long as that erect direction of the branches which is natural to them is exactly maintained, the flow of their fluids, being subject to no interruptions, will take place in the freest possible manner; but the moment this natural direction is deviated from, the vessels become more or less compressed, their action is impeded, and finally, if the inversion is perfect, it becomes so slow that an accumulation of the profuse juices necessarily takes place through every part of the system. (*d*)

One of the objects of *training* is to produce the same effect. Branches are bent more or less from their natural erect position, their motion, in consequence of the action of wind upon them, which is known to facilitate the movement of the fluids, is totally destroyed; and hence arises the accumulation of proper juice which is necessary to their fertility. Nor is the *influence of the stock* of an essentially different nature. In proportion as the scion and stock approach each other closely in constitution, the less effect is produced by the latter; and, on the contrary, in proportion to the constitutional difference between the stock and scion, is the effect of the former important.—Thus, when pears are grafted or budded on the weld species. apples upon crabs, plums upon plums, and peaches upon peaches or almonds, the scion is, in regard to fertility, exactly in the same state as if it had not been grafted at all. While, on the other hand, a great increase of fertility is the result of grafting pears upon quinces, peaches upon plums, apples upon white thorn, and the like. In these latter cases, the food absorbed from the earth by the root of the stock, is communicated slowly and unwillingly to the scion: under no circumstances is the communication between the one and the other as free and perfect as if their natures had been more nearly the same; the sap is impeded in its ascent, and the proper juices are impeded in their descent, whence arises that accumulation of secretion which is sure to be attended by increased fertility. No other influence than this can be exercised by the scion upon the stock. Those who fancy that the contrary takes place—that the quince, for instance, communicates some portion of its austerity to the pear, can scarcely have considered the question physiologically, or they would have seen that the whole of the food communicated from the alburnum of the quince to that of the pear, is in nearly the same state as when it entered the roots of the former. Whatever elaboration it undergoes must take place in the foliage of the pear; where, far from the influence of the quince, secretions natural to the variety go on with no more interruption than if the quince formed no part of the system of the individual. (*c*)

(*a*) Transplanting, and diminishing the system of roots, have also, by lessening the flow of sap, a tendency to induce fruit buds. A sizeable tree often shows blossoms the second year after being transplanted, though subsequently it may not bear for some years. J. B.

(*b*) Knight's opinion in regard to the formation of wood and fruit buds, is this: that the natural efforts of the mother tree are directed, 1, to the nourishment and perfection of her progeny, the fruit; 2, to the production of new wood buds, essential to the elaboration of food the coming year; and (these labors being finished) 3, to the production of fruit buds for another crop. But as our seasons do not afford time to perfect all these labors, it happens that many varieties, particularly those which produce great crops, and carry their fruit late, produce fruit only every other year; and hence, too, varieties brought from a higher latitude, where the seasons are longer, as the Siberian crab, and the process of vegetable development more rapid, become in warmer climates, annual bearers. The varieties that ripen their fruits early, as most of the cherries, plums, &c. produce fruit every year; except that when the crop is heavy, a barren year, and often the death of the tree succeeds. J. B.

(*c*) I dislike this method. It is robbing one part of the tree of its food to pamper a pet branch. Several branches of the plum, experimented upon, died the following year; and branches of the apple broke off with the weight of fruit. J. B.

(*d*) These axioms in vegetable physiology will find a confirmation in our orchards and gardens. The pendulous and horizontal branches will be found to abound most in blossoms, and others much in the ratio of their departure from an upright position—those growing erect producing the last. Hence a crooked tree (particularly the apple) bears better than a straight tree; and a flat spreading top is more beautiful than a tall pyramidical one. Hence too the practice of nurserymen, of removing the centre shoot of the apple, when it has attained a sufficient height to form a head. J. B.

(*e*) In the cultivation of the pear in the London and Edinburgh Horticultural Gardens, advantage is taken of both of these last methods, for a three-fold purpose, of inducing precocity and fruitfulness, and of saving ground. Such of this fruit as takes freely, is worked upon the quince, and trained *en quenoille,* that is, the branches, which are suffered to grow low, are thinned out, and those left bent down so as to assume the form of a distaff, and there fastened. Trained in this way trees are planted four feet apart; and the product of a given area of ground is said to be greater, from dwarfs, in this way, than from standards, at the usual distance of planting.

After all, it would seem to be a law of nature, that the food of the young plant, as well as of the young animal, shall go exclusively to enlarge and develope the individual, until it has attained to natural puberty, and that the contrivances of art to counteract this law, in inducing precocity, or unnatural fruitfulness, shortens the period of their existence. This also seems to be the tendency of very high feeding and very rich manuring. Temperance is as essential to the vegetable as the animal. The great art of managing plants is to conform them to their natural soil, temperature and habits. The practice which I would urge, from the consideration of the preceding facts, is, that men should plant both dwarf and standard trees—the first for themselves and the last for their posterity. J. B.

[*Genesee Farmer.*

RURAL ECONOMY.

BOTS IN HORSES.

MR. SMITH: *Madison, Georgia, Dec.* 26, 1831.

I never again intended to have troubled you about bots; but the observations made by "Agricultor" induce me, not in justice to myself, but to the subject, to make a few more observations. I say not in justice to myself, because Agricultor dwells on some words I used, apparently as though his intention was as much to find fault with the manner of my writing as the matter. My object was not to show how well I could write, for truly I profess no talent that way; I only wished to communicate some ideas, in hopes, if correct, they would have some value; and if incorrect, that some person would convince me of my error. I hoped and expected they would be received as all communications in the Farmer should be, as valuable only so far as they contained more or less information; the language being a matter of not so much consequence. Many a good practical farmer, capable of giving valuable information, may be a very indifferent writer. I think it would be a pity for men, such as Agricultor, because of their great learning and fine talent for writing, to drive practical men from your columns in consequence of their homespun way of expressing themselves, and occupy their place with such productions as Agricultor's vastly learned essay, but which contains not one single practical original fact in all its three columns. The author of that article confesses he knows nothing of the subject, and yet without waiting to think, read, or inquire, he began to write the moment he read what I had said. My article was the production of a practical anatomist, who has, in pursuit of accurate information, devoted many and many an hour to patient and unpleasant dissection, and who stated the result of dissections made by himself. Yet Agricultor, while he confesses he is unacquainted, roundly asserts, that to believe me, is "to shut our eyes against palpable truth, and to adopt palpable error."

I select only a few instances where Agricultor has studied the words with which I express myself, instead of the substance, which I endeavoured to express. "Moreover, as if to leave no doubt of his error, the Doctor says (naming a case of his own horse which died suddenly) I had him opened *immediately* and found a great number of bots and the part where they were most abundant very much perforated, some appeared to have just began to eat, and some had gone about half through—a singular instance of *immediate* practical skill and rapid execution," &c. &c. This word, "immediate," upon which Agricultor harps, expresses exactly what I mean, when taken in connection with what goes before and after it. I think plain folks will understand me.

I stated as fact, proven by dissection, the quickness with which bots perforate the bowels of a dead horse; I mentioned that if preparation is not made before the horse dies that the horse may be opened the moment he is dead, that the bots will have began to perforate the bowels; I stated that my horse was opened immediately, but the bots had begun to eat. Now is not my meaning understood? My horse was opened immediately, as most horses would not be opened *immediately* after death, some little delay occuring between his death and the opening of his body, mine was opened in more than common hurry; not a single bot had eaten through, yet many appeared to be half way. Now I say in every instance I have seen, the bowel was found perforated, unless where preparation was made before death, when the stomach and bowels were found entire. If Agricultor wishes to throw any light on this subject, one single dissection is in point of real utility worth all the learned dissertations he will ever make.

I stated that as soon as a horse dies, the bots endeavour to make their escape by eating a way out, or else knowing the animal is dead, eat a last meal from choice. Agricultor goes on to say, this would imply, that they had indulged their appetites in a similar manner at least once before the horse had died. Here again I request Agricultor to supply himself with practical information, with which to instruct us, instead of overpowering us with learning which is really of no use. The important fact is, that the bot does eat through so soon as a horse dies. I believe they eat through to make their escape, and add, if not with this view they, knowing the horse to be dead, take a last meal from choice. I cannot see why this implies they had indulged at least once before, in a similar manner. Cannot the last meal of any particular food be also the first? This will not be denied. The question then is, why the insect so soon as the horse dies, endeavours to make its escape, or why it takes this last meal. Here our language wants a word to express our meaning; external causes acting on living matter, both animal and vegetable, produce changes which we cannot explain or understand; and as I say we have no word to express the idea; a plant growing in the dark inclines to a hole that will admit some light; a snake sheds his skin; a tadpole drops his tail; warmth changes an egg to a chicken; blood, when taken out of the blood vessel, coagulates; but if the animal be killed suddenly, as with electricity or a violent blow, the power of coagulation is destroyed, &c. &c. By what word shall we express these changes? Is it instinct? What is instinct? Natural desire or aversion, the power regulating the will of brutes; or, to come to the real truth, a word without a meaning, that expresses nothing, but used in common language instead of saying effects on living matter from causes which we do not understand. The word instinct cannot be used to express those various changes; they cannot be the effects of reason or intellect; we should degrade reason to apply it here. The celebrated John Hunter, wishing to remove this difficulty, and knowing no word to express his meaning, endeavoured to explain those various changes by saying they were produced by the stimulus of necessity or imperfection. I wishing to express the same thing, and not thinking reason or instinct applicable, not considering Hunter's expression perfect, and certainly tediously long for frequent use, used the word *choice*. I did not select this word because it is altogether applicable, but because it is a short word in common use, expressing as much as any other word that I know of. Now let us come to facts—bots are in the bowels of a horse, they there live on the secretions and contents of the bowels, but at particular seasons or ages, probably aided by the peristaltic motion of the bowels, are carried through the alimentary canal and discharged; but from some cause this horse dies, they are no longer in a living animal; all things are changed, can we not conceive that the bots so differently acted upon, should acquire a new nature, or that they should acquire a different disposition in consequence of altogether different causes acting upon them? Call it reason, instinct, stimulus of necessity, or imperfection, or as I say *choice*, you can make no more or less of it than a change of nature or disposition, caused by a change of circumstances. It implies nothing more or less than an imperfection in our mode of expression, and cannot be said to imply that bots ever eat horse flesh before, or ever will again; and I will acknowledge myself greatly indebted to Agricultor if he will fill up this deficiency in our language. I believe the bots eat or gnaw a way out, to make their escape. I could relate many facts connected with it Go yourself, Agricultor, to the carcase of a dead horse in September, no matter of what disease he died, and you will see them not only eating through the bowels, but the parietes of the abdomen also; you will see them on the ground, and going into the ground in several different stages. Apply yourself to the subject and you will find all I state as facts, correct.

"As to the idea of their eating simply to make their escape, it is contrary to the wise ordinances of nature that she should have impressed so fallacious an impulse on this little insect, which has neither legs or wings at this stage of its existence for locomotion; and after its labour was performed to escape, it would in all cases remain as much incarcerated as before." Agricultor has not studied all the wise ordinances of nature, or he would not have indited this sentence. Are there not a large number of insects and reptiles that have neither legs nor wings, and yet enjoy the privileges of locomotion, and in the present instance, if we carefully examine, we shall find the bots eat out as fast as they can and in a very little time by the help of buzzards, hogs, &c., they are scattered around, changing into another state. Now whether they eat out from choice of residence or choice of food I know no way to determine certainly. My opinion I have expressed. "And further it may be replied, that it is alone the Doctor's theory that makes the paradox of the sudden change of appetite. He is the first to preach such doctrine; all others have believed it to be their natural and usual habit of indulgence, and their possession of the apparatus from nature to enable them thus to indulge, creates an irresistible presumption that nature designed them for that appetite and that food."

For my mistakes I claim an excuse. I have studied the subject for years, and spent many an unpleasant hour in dissection; my opinions are formed after carefully examining perhaps fifty horses. Where will Agricultor find an excuse for the above sentence? He confesses he is ignorant of the subject on which he writes; that he began to write the moment he read my opinion, without taking time to inform himself. What excuse has he for this sentence, which has not a correct part in it? "All others have believed it to be their natural and usual habit of indulgence, and the possession of the apparatus from nature to enable them thus to indulge creates an irresistible presumption that nature designed them for that appetite and that food." No! sir, I believe no other man but Agricultor ever had such an opinion, that bots always lived by eating on the horse's stomach and bowels; this idea is his own property; no person will claim it from him.

"Now independently of every other consideration, the single fact known to every one, of the instinctive horror at their approach manifested by the horse, ox, and all other animals obnoxious to their attacks, is sufficient to set this point at rest. It has never been denied and may be assumed as undeniable, that an unerring instinct has been impressed on every animal existence for its preservation." Here is an argument sufficient in itself to set this point at rest, and what is it? The instinctive horror the horse or ox exhibits at the approach of the gad fly! Is it not strange that because the horse and ox have an instinctive horror of the gad fly, that it is proof positive that my opinion, that bots do not kill horses is palpable error? Did Agricultor never see the gad fly depositing her eggs on a large dog? The dog has the same instinctive horror as the horse; yet I have never heard of a dog being killed by bots. "It has never been denied, and may be assumed as undeniable, that an unerring instinct has been impressed on every animal existence." Certainly Agricultor never read Darwin; I think the most ingenious production I ever did read, that noted author wrote on instinct, wherein he denied that there was any such thing as instinct. I do not intend to argue on instinct, but advise Agricultor to think a little and he will find it unnecessary to call in instinct to prove why a horse so dreads the gad fly. The flies that bite him fly on him, the hum of wings is therefore the precursor of pain; the gad fly continues to buz while depositing her eggs; the animal, from *reason, not instinct,* expects pain when the fly begins to buz around him, and is alarmed; it is not the gad fly only, but any buzzing fly creates alarm. When a boy, I have more than once with a thread tied a June bug to the mane of my father's old dun horse, and indulged in the mischief of seeing how uneasy the old folks would be to see the old dun so near frantic in appearance, running and rolling over the yard. Agricultor takes it as a matter granted, that the gad fly produces bots. I have tried a number of experiments on this point. I regret that as yet I cannot decide positively; my present opinion is that the gad fly has nothing to do with producing them—I will give you some reasons that may make you doubt the fact; take one of the eggs, blow your breath on it a few times, and it will hatch; examine it with a good microscope and it does not resemble a bot. Colts have gad fly eggs on them, but have no bots—I have seen colts biting their mothers where eggs were abundant; why are they not in colts? Some of the best kept horses that are curried and rubbed several times a day never have an egg to remain on them sufficiently long to hatch; horses that are kept covered also have the most bots. My brother's race horse I mentioned, I do not suppose had an egg on him for years; yet I believe he had the most bots I ever have seen in a horse. Old field horses whose fore legs are often almost white with eggs, opened after death always have fewer bots than stabled horses. This is an old fashioned far-fetched notion: that the gad fly deposits her egg on the hair, that this makes a bot, is taken in by the nose or mouth, and carried to the stomach, is I think next to the most ridiculous account we have in natural history. It cannot, however, come in competition with the accounts we have of conception in the Opossum. Here we have generation performed in the nostril, and the semen blown into the false pouch. Does Agricultor really believe in either of these singular whims? Let him not believe them because he has heard so; but begin and continue experiments, and he will be convinced of his mistake. He may ask where bots come from? I answer I do not know; neither do I know how almost every fiste dog has his heart nearly half filled with worms, or how children get worms in their bowels. The old women can explain where children's worms come from as easy as he can where bots come from, by saying they are produced by the worms in the peaches, &c. which they eat.

I would wish to notice some few more of Agricultor's observations before I leave him. "It is true both the communication and commendation are drawn with ability, and therefore the better calculated to make erroneous impressions." Here A's notion and mine are very different. If the communication is drawn with ability it must be accurate; if accurate it cannot make erroneous impressions. Can a communication, all error, have ability? We may say of an attorney, he spoke with ability in a bad cause; his ingenuity made a bad cause seem a good one; but should he be arguing a bad cause and believe it to be a good one, no matter how ingenious his arguments may be, he shows his want of ability in mistaking the wrong for the right. I therefore, according to Agricultor, cannot be said to show ability by the accuracy of my opinions. Do I show ability by the ingenuity with which I support a bad theory? Agricultor must think not, for all my arguments to support it, he thinks, prove exactly contrary to what I intended. I make a few extracts: "Which species of argument so far as it may have force, most flatly contradicts in my humble opinion, the hypothesis it was designed to sustain." "In what respect then, has the Doctor's arguments been so conclusive. In my humble opinion the whole course of reasoning in analogy, flatly contradicts his theory," "which the Doctor admits (for he says they do it once,) creates an irresistible presumption that nature designed for them that appetite and that food," "moreover, as if to leave no doubt of his error, the Doctor says," &c. There are a number of other sentences seem to me to show that A. cannot think I support a wrong opinion with ability. Wherein then does he find my ability? Nowhere—he only intends it as flattery. I thank him; should he write any thing further on the subject, he need not take the trouble to repeat it; this much is enough to last a long time. Or does he only mean to compliment me for my style of writing? If so, it is the first I have ever received, and as I expect it to be the last, it will be cherished. The manner in which Agricultor manages this subject, turning all my arguments against myself, and making them prove exactly what I wished to disprove, reminds me of an anecdote which occurred lately on board the steamboat, on the Savannah river. With a great many other passengers there was a very vain Doctor, who annoyed all the other passengers with accounts of his vast business, great consequence, and wonderful cures, and a sage old Methodist exhorter, whose sage honest face gave no one reason to expect jokes or wit from him. The Doctor after relating many wonderful cures he had effected, told of the great use he had made of Swaim's panacea; and stated that he prescribed it to a sick lady; and that such was its healing qualities that in a little time it healed up her mouth. Indeed said my good old Methodist friend Thompson, tis a pity the medicine has one great fault. What is the fault, said the Doctor? Tis too good, said Mr. Thompson, I hope, however, it will be adulterated so as to reduce its healing powers, so as to make it valuable. So I think of the strong manner in which Agricultor handles my arguments—there is one fault; he is too strong; if his mode of arguing was adulterated so as to reduce its strength one half, it would do better. Now, Mr. Agricultor, if my good friend Mr. Smith will promise to publish any more of my productions, I have some observations rather new to make upon founder and hooks. I hope you will have leisure to think on both diseases, and an opportunity to dissect a horse's eye. Can you help me to explain the strange facts, (I am not joking,) that a twine string tied tight round the end of a foundered horse's tail, is a powerful remedy? Tis wonderful, to notice its effects; but as to the cause I am lost in conjecture.

Robert R. Harden.

(From the Genesee Farmer.)

BOTS IN HORSES.

In a late number of the American Farmer is published a letter from Doct. R. R. Harden, of Georgia, in which the writer puts forth a new theory concerning bots in horses, which is, that bots never kill horses, neither do they feed upon them until after death. In the first place, he asserts that all horses have bots, but that fat ones have more than poor ones, and infers that there is but one way of expelling them, viz: "to starve the horse, and use him badly." He says that horses that are out of use and at pasture, never die with bots; and his reason for this is that colic causes the death of many horses, which is often occasioned by injudicious feeding and use: and that immediately after the death of the horse, the bots as if by instinct, perforate the intestines, for the purpose of making their escape. On the contrary, he asserts that if a horse is opened the moment that he is dead, the stomach will never be found perforated. If this is correct, it is a pretty strong argument in favor of his theory. He mentions a case, where a race horse killed himself jumping over a fence, and was opened a few hours afterwards, when it was found that the bots had nearly eat up his stomach. He examines the common means applied for the relief of horses said to have the bots, by putting them into different solutions, and noting the effect in the following manner:—"twelve two ounce vials had bots put in them, one had milk put in it, another water, another nothing as a standard: we then filled the others with a strong solution of copperas, a solution of arsenic, aquafortis and water, a solution of corrosive sublimate, &c. nine of them being filled with such things as were thought to be most likely to kill them. The arsenic, copperas and aquafortis, appeared to have no effect upon them; they appeared fully as contented as those in the water. Those in the laudnum, however, moved less than the others, remaining apparently dead at the bottom of the vial, but moved when touched: after keeping them until we were all satisfied that nothing that a horse could take would injure them, they were all thrown away." This is in accordance with the declaration of a friend of ours, who says that he has seen the experiment tried of putting them into a strong solution of potash, which did not appear to injure them. Taking these premises as correct, then the thousand nostrums and specifics given by most of our horse-doctors, are worse than useless, unless they are of that kind which would have a good effect in colic, which he declares those cases to be altogether, which are so commonly ascribed to bots. We confess we are in favor of his theory, as we have had some experience with horses, and have generally given strong cathartics in cases which were strongly marked by those symptoms ascribed to bots, and in every case but one with success: and we do not recollect one case but what might be traced, either to a change of food, over feeding, or improper treatment. We think that the Doctor is entitled to the thanks of community, for giving this powerful stimulant for investigating the subject closely, at least, as he has come boldly into the field against those long handed-down opinions, many of which we give currency to without ever suspecting that we are declaring those things for facts, of which we have no knowledge; nor even suspect ourselves of conforming in opinions to those of the dark ages. The horse surely is one of the most noble animals, and ministers greatly to the comfort of man; and let us ask who has ever seen one of these sick animals in the hands of a *horse quack*, but what has felt a degree of pity for him? First, if his case is pronounced bots, he must have a dozen Dutch words whispered in his ears, then a number of blows with the flat hand, a piece of board or a shovel upon the belly, or must be rubbed from end to end with a pitchfork handle, compared with which, being kneaded for the dispepsia is a mere trifle.

To Powder Red Pepper.

I have seen in the Farmer the request of a correspondent, to be informed how Red Pepper is powdered. I know not how it is done in the large way, as we find it at the grocers and druggists; but for family use, my mode, and a very good one, is the following:—

Beat the Peppers when dried, both pods and seeds, in a mortar as fine as conveniently can be done, but very fine is impracticable. Mix with this one third part of fine corn meal; make a pone of bread of it and bake it well in an oven. When cold, split the pone and dry it in a warm oven, or before the fire. When thoroughly dry and hard, powder it in a mortar again and pass it through a fine seive, it is then fit for use.

Cousin Tab.

THE FARMER.

Baltimore, Friday, Jan. 13, 1832.

We would respectfully but earnestly request the attention of correspondents, to the propriety of a due observance of respect and forbearance towards the opinions advanced by others, and the correctness of which they think proper to controvert. Especially do we deprecate verbal criticism and the taking advantage of inadvertences and even errors and inconsistences in language, where the main idea intended to be conveyed is made apparent It must be borne in mind that plain practical farmers are seldom fine writers,—that is, capable of expressing their ideas in the most perspicuous refined, and most classical language; but at the same time it must be confessed that they are by far the most valuable class of writers for a Journal such as the American Farmer. Severity of criticism, whether of their style or their arguments, is well calculated to deter such men from writing, and of course to put a stop to the dissemination of practical information,—a result which we are sure all men must deprecate. A respectful style is, moreover, to be recommended on several other accounts: it gives to argument half its force by ensuring to it respectful consideration; it is due to the honest opinions of men, whether erroneous or otherwise, because they are not voluntary or wilful, but necessary deductions from such data as their possessors were able to command. The style of the controversy between Dr. Harden and "Agricultor," has induced these remarks. The style of the latter we did not feel authorised to modify, and that of the former in a communication in the present number, though permitted to do so, we could not, on the score of even handed justice, think of softening. We trust to the good sense of both gentlemen for the alleviation desired.

"Agricultor," on bots in horses, came too late for this number—it will appear in our next.

ALABAMA SUGAR.

The editor of the Mobile Register, having seen a sample of sugar, made on the plantation of S. H. Garrew, Esq. a few miles below that city, expresses the opinion that it is equal, in weight, grain and colour, to the best Louisiana sugar. Mr. Garrew has about thirty acres of cane, this season, most of which is stated to be of very fine growth. The editor also mentions having seen two or three hundred stalks of cane, grown on the plantation of Dr. Casey, in Dallas county—fully equal in appearance to the Louisiana cane—and averaging from eight to twelve ripened joints to the stalk. These, says the Register, are further evidences of the adaptation of our soil and climate to the successful cultivation of sugar cane.

Prices Current in New York, Jan. 7.

Beeswax, yellow 18 a 19. *Cotton*, New Orleans .10 a .11½; Upland, .7 a .10; Alabama, .7½ a 11. *Cotton Bagging*, Hemp, yd. 14½ a 17; Flax 13 a 14½; *Flax*, American, 7 a 8.——*Flaxseed*. 7 bush. clean .—— a —— *Flour*, N. York, bbl. 6.50 a ——; Canal, 6.87 a 7.00; Balt. Hwd. st. 6.75 a 6.87; Rh'd. city mills —— a 7.00; country, 6.50 a ——; Alexand'a, —— a 6.75; Fredericksburg 6.37 a 6.50; Petersg. —— a ——; Rye Flour, 4.75 a ——; Indian Meal, per bbl. 3.37 a 3.50; per hhd. —— a 16.50; *Grain*, Wheat, North, —— a ——; Vir. 1.16 a 1.20; Rye, North, — a 95; Corn, Yel. Nor. 73 a —; Barley —— a ——; Oats, Sth. and North, .44 a 50; Peas, white, dry, 7 bu. 5. Beans, 7 bu. 7.00 a 8.00; *Provisions*, Beef, mess 9.00 a 9.25; prime 5.50 a 6.25; cargo —— a ——; Lard, 10½ a .11; Pork, mess, bbl. 13.50 a 14.00; prime 11.50 a 11.75.

GRAPE CUTTINGS, &c.

William Prince & Sons, near New York, offer for sale the following: 30,000 cuttings of the Isabella, Alexander or Schuylkill Muscadel, Catawba, Winne, Herbemont's Madeira, Bland, Elsingburg, Elkton, Worthington, White Fox, Lufborough, Long's Arkansas, Missouri, Muncy, Norton's Virginia Seedling, Scuppernong, York Madeira, and other native and foreign grapevines at reasonable rates.

Scions of Fruit Trees for ingrafting which can now be sent with safety to any part of the Union, will be supplied of all the various kinds.

Above 150 varieties of Double Dahlias, including the New Anemone flowered, and dwarf varieties, and also several White flowering varieties.

500 New Chinese Mulberry or Morus Multicaulis, so superior for silk worms.

500 lbs. of seed of the Yellow Locust tree, of the Long Island variety, so noted for ship timber.

The following seeds are daily expected from Europe, and will be supplied at low prices.

1,000 lbs. Luzerne.
300 lbs. French Sugar Beet.
300 lbs. Mangel Wurzel
500 lbs. Scotch White Cloverseed, and various other agricultural seeds.

Orders for these articles, or for Fruit Trees, Flowering Shrubs, and Plants, Green House Trees and Plants, Bulbous Flower Roots, &c. will receive the utmost attention. Orders can be sent per mail, and catalogues will be sent to all those who desire them.

GIDEON B. SMITH,
Agent, Baltimore.

Jan. 13—3t.

DEVON CALVES.

A pair of beautiful Devonshire Calves, six months old, male and female, of the original stock from Mr. Coke of England, for sale by GIDEON B. SMITH.

RAPE SEED.

A small quantity of fresh Rape seed just received, for sale by the subscriber.

BULBOUS FLOWER ROOTS.

The subscriber has for sale a small but elegant assortment of Tulips, early double and single Van Thol, and common kinds; Crown Imperials and Persian Fritillarics; Polyanthus narcissus, yellow and white fragrant; Yellow fragrant and White fragrant; Double and single fragrant Jonquils, &c.

A few of his splendid collection of new Pæonies and Hemerocalises yet on hand. GIDEON B. SMITH.

AGRICULTURAL WAREHOUSE AND SEED STORE.

The subscriber feels much pleasure in returning his thanks to the public for the very liberal patronage given to his agricultural establishment during the past year. The increased demand for the Davis Ploughs, and the still much greater increase in the demand for his *Patent Cylindrical Straw Cutters*, is highly flattering to him, as it not only expresses the confidence which the public have placed in him, but proves that his patrons have not been disappointed. He hopes that he may yet be rewarded for the six years time which was spent entirely in making his improvements in the Straw Cutter, and eight or ten years more in introducing them to the public. Having now, upwards of four hundred of them in use in the various parts of the U. States, and to the entire satisfaction of all who have them, he can recommend them with the fullest confidence.

He has a pretty general assortment of Agricultural Implements, and of the most approved kinds, and such as he trusts, while he recommends them, they will also recommend themselves on trial. Also, a general assortment of Garden and Field Seeds, &c. &c.

J. S. EASTMAN,
Pratt street near Hanover.

Jan. 3, 1832.

FRUIT, ORNAMENTAL TREES, SHRUBS, AND PLANTS.

SINCLAIR & MOORE,

Inform their friends and the public generally, that their stock on hand this season is large, of thrifty well grown trees, except those marked on the catalogue. The fruit in this establishment are all carefully grafted or inoculated mostly from bearing trees, of the choicest collection of American and European fruits.

This nursery will afford purchasers in our own state the important advantage of planting their trees on the first, second, or third day after they are taken out of the ground, (provided the holes for the trees are previously dug, which they always ought to be,) having quick transportation to most every part of the state.

Printed catalogues for this season describing the names of plants, time of ripening, and price, as also directions for planting, to be had gratis at their Plough and Seed Store, Pratt street wharf, Baltimore, or at their Nursery, three and a half miles east of the city, between the Philadelphia and Bellair roads; the best and nearest way to go to it is by going out the latter road two miles, to a pointer of further direction. The senior partner resides on the premises, and constantly superintends the same, and would be pleased to see persons disposed to encourage, or view their extensive collection, where they can see and choose for themselves.

For the information of those who are not in possession of a catalogue, they will mention some of the principal articles ready for sale, to wit:—

Apple, Pear, Peach, Plum, Cherry, Apricot, Nectarine, Fig, Gooseberry, Currant, Raspberry, Strawberry, Quince of sorts—Grape Plants, fine size, many choice kinds, Thorn and Honey Locust for hedges.

ORNAMENTAL TREES.

English Elm of middling and extra large size.
Italian White Mulberry, of do. and large do.
Horse and Spanish Chestnut.

Linden and Sugar Maple Trees, Paper Mulberry, Abeal or Silver leaved Poplar, Yellow and Honey Locust, Chinese Aleanthus, or tree of Heaven, English Walnut, Mountain Ash, Buttonwood, Black Walnut, &c. &c. Balm of Gilead, or Silver Fir, White or Waymoth Pine, Dwarf Box, Cutting and Rooted Plants, Black Double Spruce, Arborvitæ.

ORNAMENTAL SHRUBS.

Roses, both hardy and Chinese or ever blooming, a good assortment, Double Althea a superior collection, Linock five kinds, Snowberry Tree, Grounsel Trees, Roseacacia, Corchorics, Scarlet Trumpet Creeper, White Flowering Virginbower, White Flowering Jasmine, Yellow Flowering do., Scarlet Trumpet, Monthly Honeysuckle. White Striped Monthly do. of exquisite fragrance, Multiflora Rose, Graville's Superb Multiflora, cuttings of Grape, Apple, Peach, &c.

AGRICULTURAL BOOKS.

A variety of the most approved works, both Foreign and American, on subjects connected with Agriculture, Horticulture, Farriery, &c. kept for sale at this office.

BALTIMORE PRICES CURRENT.

Baltimore Market.—There is a small advance in the prices of flour in consequence of the expected opening of the harbour. A few lots of Howard street have been sold at $5.50 and that is now the asking price of city mills. Howard street from wagons is worth $5.37½, supplies small. Corn has declined in consequence of the abundant supply from wagons.

Tobacco.--Seconds, as in quality, 3.00 a 5.00; do. ground leaf, 5.00 a 9.00.—-Crop, common, 3.00 a 5.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 10.00; yellow and red, 8.00 a 14.00; yellow, 14.00 a 16.00.—Fine yellow, 16.00 a 20.00.—Virginia, 4.00 a ——.—Rappahannock, 3.00 a 4.00——Kentucky, 3.50 a 8.00. The inspections of the week comprise 15 hhds. Md.; 17 hhds Ohio—total 32 hhds.

Flour—best white wheat family, $6.75 *a* 7.25; super Howard-st. fresh 5.50 *a* ——; city mills, $5 50 *a* —— *a* ——; Susq.— *a* —; **Corn Meal** bbl. 3 50; **Grain**, Md. red wheat, 1.00 *a* 1.05; white do.—— *a* ——, Susq. — *a* —**Corn**, white, 54 *a* 55—yellow 54 *a* 55—**Rye**, 81 *a* 83 —**Oats**, 40 *a* 45.—**Beans**, 75 *a* 80—**Peas**, 65 *a* 70—**Clover-seed** 5.25 *a* 5.75—**Timothy**, 2.50 *a* —— **Orchard Grass** —— *a* ——-Tall Meadow Oat Grass 2.00 *a* 2.50---Herd's, 75 *a* 1.00--Lucerne — *a* 37½ lb.—**Barley**,—**Flaxseed** 1½ *a* 1 5-8-**Cotton**, Va. 7½ *a* 9-Lou. 9 *a* 12—Alab. 8 *a*. 10—Tenn. 7½ *a*. 9; N. Car. 8 *a*. 9½-Upland 8 a 10---**Whiskey**, hhds. 1st p. 30 *a* ——; in bbls. 32 *a* 33-——**Wool**, *Washed*, Prime or Saxony Fleece 49 *a* 57; American Full Blood, 47 *a* 55; three quarters do. 41 *a* 47; half do. 35 *a* 41; quarter and common do. 32 *a* 35. *Unwashed*, Prime or Saxony Fleece, 30 *a* 34; American Full Blood, 27 *a* 30; three quarters do. 25 *a* 27; half do. 22 *a* 25; quarter and common, 19 *a* 21——**Hemp**, Russia, ton, $225 *a* –; Country, dew-rotted. 5½ *a* 7c. lb. water-rotted, 7 *a* 9c.—Feathers, 37 *a* 37½; Plaster Paris, per ton, 4.75 *a* ——, ground, 1.37½ *a* — bbl. Iron, gray pig for foundries per ton 33.00 *a* ——; high pig for forges, per ton, 28.00 *a* 30.00; bar Sns. per ton, 72.50 a 80.00.—Prime Beef on the hoof, 3.25 *a* 4.25—Oak wood, 5.00 *a* 6.00--Hickory, 6.50 *a* 7.00.

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EDITED BY GIDEON B. SMITH.

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AGRICULTURE.

(From the British Farmer's Magazine.)

PRIZE ESSAY,

At the Liverpool Agricultural Society's Annual Meeting, 1831.

BY THE REV. HENRY BERRY.

(Concluded from p. 346.)

Of the practical part of breeding it is extremely difficult to write, circumstances varying so considerably as to allow the uniform adoption of but few rules, and though a writer might himself, in the practice of breeding, feel little at a loss what course to pursue, yet unless he could suppose all the cases which may occur, it is impossible to provide for them. The remarks on this part of the subject will, therefore, necessarily be few and brief. Of course, a person selecting a stock from which to breed, will obtain them, notwithstanding he may have set up for himself a standard of perfection, with qualifications of different descriptions, and in various degrees. In breeding from such, he will exercise his judgment, and decide what are indispensable or desirable qualities, and will cross his animals with a view to produce and establish such. His proceeding in this case will be of the give-and-take kind—he will submit to the introduction of a trifling defect, in order that he may profit by a great excellence; and, between excellencies, he will decide on which is the greatest, and give it the preference. This, however, rather applies to a person not a beginner, but so far established as to have a choice of bulls, and to propose breeding them for his own use. To the person commencing improvement of a stock, perhaps the best advice that can be given is, to obtain as good a *bull* as possible, and, if he be very good of his kind, to use him indiscriminately with all his cows; and when, by this proceeding, which ought to be persisted in, with an occasional change of bull, his stock has become sufficiently stamped with desirable characteristics, his selection of males should then be made, so as to eradicate defects which he thinks it desirable to get rid of. He will not fail to keep in view the necessity of *good blood* in the bulls resorted to, because that affords the only *assurance* that they will transmit their own valuable properties to their offspring; but, at the same time, he must not suppose *blood alone* will promote his object. If it be not attended with essential recommendations, it will too probably entail on him all the evils of degeneracy. In animals evincing perfections in an extraordinary degree, where the constitution is decidedly good, and there is no very prominent defect, a little close breeding may be allowed; the son with the mother for instance, to whom he is only half blood, or even the brother with the sister; but this is rather a practice which *may* be justified, than one to be recommended. Injudiciously adopted, or pursued too far, it will entail certain mischief on the stock, because, on the principle, that it increases and tends to confirm valuable properties, it must also increase and confirm defects; and no breeder need be long in discovering that animals, in an improved state, have a greater tendency to defect than to perfection. Close breeding from affinities is also found to impair the constitution, and affect the procreative powers; and it will, therefore, always be necessary, after it has been resorted to, to throw in a strong cross, as respects blood, and to refer to such animals for the purpose as are unquestionably vigorous and healthy.

The manner in which stock is subsisted, will, of course, greatly depend on the nature of the produce of the farm, and the intended appropriation of the stock. The breeder will, however, do well, at no time to allow himself to be overstocked, and the more liberal his mode of keeping, short of extravagance, the greater reason he will have to expect profitable results. Where the raising a young stock to advantage is a principal object, it matters not how soon after the first of January the calves are dropped. Being thus early calved, they will learn to subsist on various matters given in the house, so as to go out to grass strong, and requiring no further care; and, by the setting in of winter, they will be well fitted to endure its hardships. The cow should be permitted to calve in a loose house, and to remain with the calf three or four days. It will be greatly benefitted by her licking it, particularly at first, when the friction of her tongue increases the too-frequently languid circulation of the blood, and produces a genial warmth in the half-exhausted and chilled little animal. Nothing can be worse than the practice, so common in Lancashire and Cheshire, of attempting to do that by hand, which the dam's tongue so much more effectually performs; and it is distressing to see a calf thus treated, shivering in consequence of its wet cold skin. The frequent application too of the calf to the udder of its dam, affords a most useful supply of warm milk in moderate quantities, and must produce a considerably better effect on the digestive powers of the calf, than the large quantities of milk usually given, with the too long interval between morning and evening. The tendency to inflammation of the udder is also suppressed by the calf's repeated sucking, and should the cow be feverish, nothing soothes and promotes her quiet so much as the presence of her calf. After three or four days, according to circumstances, they may be separated, and the calf should be allowed milk from the cow, at least for a month, at which time the quality of the milk may be reduced, and a handful or two of sweet oatmeal mixed in it, and this should be continued till such time as the calf has learned to eat hay, sliced turnips, and ground oats or flour of any description; the milk should then be gradually lessened in quantity, till at length it may with propriety be omitted. It is very important to observe this gradual diminution, as sudden changes of diet are extremely dangerous at this early age. The calves will, of course, go to grass at the usual season. In the month of October, a rowel inserted in the skin above the front of the brisket, will most probably avert the attacks of quarter evil. The writer formerly lost many yearlings from this disorder, but since he has adopted this preventive measure, he has never had one attacked. Early taking to house in the first winter, is highly desirable, and if the calves be tied up, so much the better. It prevents waste of food, and contention, and the young animals acquire orderly habits, which are never afterwards forgotten. The mode of keeping cannot now be too good, and should consist of turnips, or other roots, with hay. Straw should by no means be given in the first winter, though afterwards, with turnips, it may answer very well. A young beast, reared well till its second spring, rarely experiences a check, but if neglected at this early age, no profit can reasonably be expected. At this age calves are subjected to a disease called the hoose, which causes a constant coughing, and ultimately produces inflammation of the lungs, and death. This will be found in most instances to proceed from small worms, seated in the upper part of the windpipe. In the last spring the writer cured sixteen yearlings, by injecting into the nostril of each, a solution of aloes and asafœtida, and he never knew a similar timely application fail. When two years old, the heifers may have the bull, at such period of the year as best suits the circumstances of individuals. Previously to calving, they, as well as the cows, ought to be kept well, or they cannot be expected to milk, as they otherwise would. It has generally been a fault of Cheshire and Lancashire dairyman, to starve their cows at the very time when they most require recruiting. This is any thing but true economy; and in Cheshire particularly, produces annually great loss. When cows calve in high condition, or evince great appearances of milk, half a pound of salts, given two or three days previously to calving, will have the best effect, and probably avert fever and inflammation.

The foregoing general remarks have been deemed sufficient, under all the circumstances, to meet the views of the Liverpool Agricultural Society. Its Committee will, no doubt, bear in mind, that the same subject, proposed last year by the Manchester Society, produced several essays, in addition to which, so much has recently appeared on breeding, in an Agricultural periodical, that it is not easy to strike out any thing very novel on the subject. The writer is, however, so deeply impressed with the fact, that breeders have suffered irreparable injury from the loss of stock bred without reference to that *indispensable* consideration—hardy constitution—he flatters himself this paper will not be deemed altogether unworthy of notice; and having stated nothing but what the dearly-purchased experience of some years has justified him in endeavouring to enforce, he has the satisfaction of reflecting, that his remarks are founded on the fullest conviction.

Of the systems of farming adapted to the district embraced by the Liverpool Agricultural Society, it appears that two only are peculiarly appropriate; admitting, of course, occasional deviations, as circumstances may occur, of the expediency of which individual occupiers must judge. Abstaining from the use of scientific terms, which tend only to obscure subjects of the nature of the present article, with a certain class of readers; it seems sufficient to describe the soils under consideration, as light, and heavy. On the light soils, the following course of crops appears most desirable—potatoes or turnips, with manure—wheat with clover, and after the clover, oats; or in case the land be in very good heart, barley may be substituted for the wheat crop, (a change favourable for the clover,) and wheat may come last in the course, in lieu of oats. It will be requisite for the latter system, that the land be in good heart, or the wheat crop may be deficient; but clover brush being so congenial to wheat, and the barley, if the soil suit it, more valuable than the oats, as well as promising a better stock of clover, the latter system is well worth consideration. Should it be adopted, it will be desirable not to mow, but graze the clover; but if mown, it should not stand for seed, which would probably impoverish the land too much, to give a chance of an average crop of wheat.

On the heavy soils, where potatoes, and turnips cannot be grown with propriety, a summer fallow, with lime or manure, will be the preparation for wheat sown with clover, which having stood a year, may be followed with beans, which will finish the course. It may happen, however, on this description of land, that wheat, on a manured fallow, will run too much to straw; in which case, beans may take the lead in the course—if with clover, the wheat will come last; but should this be considered as removing the wheat too far from the manure, then the clover may be omitted, and the following course be adopted, viz.—fallow—beans—wheat—oats. If, however, it were objected, that the clover could not be dispensed with, then the last-named course might be adopted on *part* only of the fallow. In soils which have been long under the plough, and in which there is no great body of vegetable matter remaining, the writer doubts greatly, whether a course of three crops would be sustained by the mere application of lime; and should it be used instead of manure, the wheat must necessarily be first in the course. To the frequent application of lime on such soils, he is decidedly averse, deeming it rather an exhausting stimulant, than a contributor of nutriment to the crop. It certainly aids the working of tenacious soils considerably, but he considers its frequent use unprofitable, and even reprehensible; and, therefore, would recommend that the fallows be dressed with manure, as frequently as possible. So far the writer has proceeded on the assumption—that potatoes or turnips cannot be raised on the soil in question. He is, however of opinion, that there are few soils on which both roots may not be raised, and would recommend the attempt to the greatest possible extent. Indeed, in no part of the island has he seen finer Swedes grown, than on the most tenacious soils. Activity and perseverance are requisite to prepare such, or the soil will not be reduced to the necessary fineness. It is also of importance to get them off the land early, or the treading, at a late period of the year, will be injurious; but all this is accomplished in many situations, which could be pointed out, with the best possible results.

In a recent publication, the author has recommended, that instead of leaving a fallow for wheat, and provided the land can be got sufficiently clean, and otherwise in order, by the *end of April*, to give it half a coat of dung, and sow it immediately with from twenty to twenty-five pounds of trefoil seed per acre; this, he says, will give two or three months' excellent sheepfeed before the time of sowing wheat, which is to be sowed at one plowing, and harrowed closely down. This management obtains a fine clean and productive crop of wheat, and leaves the land in better heart than if no green crop had been taken, so that if convenient, the same process may be repeated the following year. The foregoing recommendation appears not unworthy a trial.

On tenacious soils there is, of course, no possibility of feeding off Swedes with sheep. They must, consequently, be carted off the land as early as possible, and stored for the winter. The writer has adopted the following plan with success. The Swedes being drawn, the tap root is removed, and the turnips, with the top left on, are carted to a convenient spot, and there placed upright, side by side, a small space of ground being sufficient to accommodate an acre of turnips. The tops fall over and cover the whole, and thus preserve them from frost, while, in consequence of the small fibres of the root, which were left attached to the turnip, shooting into the grass underneath, it is kept in a vegetating, and of course, fresh state, till any period in the spring which may be considered desirable.

The writer never lost a crop of turnips from the ravages of the fly, and ascribes his success to the following rules, which he has observed as closely as possible. First,—to sow seed of one year's growth, which secures simultaneous vegetation, and defies the fly, the plants being numerous. Seedsmen too frequently mix the seed of different years, in consequence of which, it comes out of the ground at various periods, and in such quantities that the fly easily overpowers the crop. Second,—thick sowing. It is much easier to cut out then insert a plant. Third,—to sow *immediately* after the manure is ploughed in, by which the advantage of the moisture is secured. In showery weather he finds an advantage in steeping the seeds in water; but if the weather be dry, steeping is injurious, the contrast being too great between the water and a dry, hot state of the earth, and the plants come up yellow and sickly. The turnip grower will be amply repaid for raising his own seed, and selecting with his own hand the turnips for that purpose. Vegetables and grain are almost as susceptible of improvement, by judicious selection, as cattle and sheep; but, generally speaking, the public are satisfied to purchase seed raised from a patch of plants left in the field, without selection, or care as to what may blossom in their neighbourhood; the consequence of which is, continual cross impregnation—a circumstance to which we owe the numberless well-founded complaints of disappointment.

The writer will conclude with a recommendation to the Lancashire and Cheshire farmer, which he has had reason to consider of some importance. He thinks early sowing and reaping of grain requisite every where; but in the climate of those, early sowing appears highly expedient. Corn allowed to stand long, loses its best grains. With oats this is particularly the case, while, if the straw be intended for cattle, it is infinitely better for not being allowed to get too ripe. Wheat, independent of the actual gain attending the securing the whole crop, yields less bran in proportion when cut early, and the miller gives it a preference.

It would be easy to add considerably to the length of this paper, by dwelling on the operative parts of agriculture, but no beneficial results could arise from such a proceeding. They can only be effectually learned in the field, and constitute part of that stock of knowledge which every farmer is supposed to possess, and which enables him to understand and apply the theoretical information which is occasionally addressed to him, with a view to his perfection in the agricultural art.

(From the Library of Useful Knowledge.)

PLANTING.

(Continued from page 349.)

CHAPTER VI.

Of the Culture of Plantations; Soil; Pruning; Thinning; remedies for accidental injuries and Natural Diseases of Forest Trees. Of the Tanning afforded by the Bark of different Species of Trees.

The judicious culture of plantations is a point of the last importance to secure a full return of profits from the capital expended in their formation, as well as for every other advantage that judicious planting confers; for let the care and skill employed in their formation have been ever so great, if the proper culture be not continued from the period of planting to maturity of growth, disappointment in obtaining the effects of wood, and loss of profits will be the certain results.—The numerous instances to be seen almost everywhere of the bad effects resulting from the neglect of judicious pruning and thinning of the trees of plantations, and the great loss caused thereby to the proprietors, evince fully the importance of this branch of the subject, which embraces the following points:—

1st. Culture of the soil.

2d. Pruning.

3d. Thinning.

4th. Remedies for accidental injuries, or natural diseases.

First. The culture of a trenched soil of a newly-formed plantation, consists in keeping the surface clean of weeds until the shade of the trees prevents their growth. It is true that these weeds take a portion of nourishment from the soil, but from what was before stated regarding the food supplied to the plants by the soil, it is clear that the growth of herbaceous weeds can injure but little, if in any degree, the growth of forest-trees. When the trees are young and of a small size, however, the mechanical effects of these weeds are extremely hurtful when they are suffered to grow and mingle their shoots with the lower branches of the young trees, by obstructing the free circulation of air, and preventing the genial influence of the solar rays from reaching to their tender shoots, and this is evident to common observation in the decay or death of the branches subjected to contact with them, and in the consequent unhealthy appearance of the leading shoot of the tree.

Hoeing the surface as often as may be required to prevent perennial weeds from forming perfect leaves and new roots, and annual weeds from perfecting seeds, is all that is required. Two seasons of strict adhereence to this rule, even in the worst cases, will render the labour or expense of future years comparatively trifling, and the healthy progress of the trees will reward the care and attention.

On soils planted by the slit, or holing-in mode of planting, it is essentially necessary to prevent the natural herbage of the soil from mingling with the lateral branches of the young tree. An active workman with a steel mattock-hoe will clean round the plants on a large space of ground in a day. Summer is the best season for the work, as the weeds are more effectually destroyed, and the partial stirring the soil about the roots of such plants as require cleaning benefits their growth.

Should the planting and culture now described have been faithfully executed, there will be few failures.—When these happen, however, the vacancies must be filled up, at the proper season, with stout plants, and the holes be properly prepared for the reception of the roots. It is a good practice for the first two or three years of a trenched plantation, to take a crop of potatoes, mangel wurzel, or carrots, according to circumstances. The rule, which must be strictly adhered to in the introduction of these crops, is, that no part of the foliage or tops of the green crop touch or even approximate near to the young trees; a rule of practice which, if broken through, produces equal damage as from a rampant crop of weeds to the plantation.

Second. There are three different kinds or modes of pruning, which, in practice, have been named close pruning, snag pruning, and foreshortening.

By leaving a snag of the branch, it in time forms a blemish in the timber, in consequence of young wood forming round the stump, and embedding it in the tree. Snag pruning is the most rude and injudicious mode that can be practised, being invariably attended with injury to the quality of the timber: it should never be adopted under any circumstances whatever. Close pruning is performed by sawing or cutting off a branch close to its parent stem or primary leading branch.—This is the only mode to be adopted in training, or rather improving, the stem or bole of a tree, or wherever it is desirable that no reproduction of branches from the point should follow. The most perfect manner of executing the work is to saw the branch off close to the parent stem, and smooth any roughness that may be left on the surface of the wound with a sharp knife, taking care not to reduce the edges of the bark which surround the wound more than is actually necessary to remove the lacerated surface. To prevent the action of air and moisture on the naked wood, a dressing should be applied, composed of ingredients that will adhere to the spot, and resist the action of drought and rain. Three parts of cow dung and one of sifted lime will be found a very effective substitute for the more compound dressing of Forsyth. The dressing should be laid on one quarter of an inch in thickness, or more when the wound is large: when rendered smooth and firmly pressed to the part, powdered lime should be thrown over the surface, and pressed into it by the flat side of the pruning knife, or a spatula. The bark will sooner cover the wound when protected from the influence of the weather by this or by any similar means, than when left naked and exposed.

In general forest pruning this process is unnecessary, or rather the benefit is not sufficiently great to warrant its cost; but for particular trees connected with ornamental effects it is well worth the trouble.

Fore-shortening pruning is the only one that can be usefully practised in reducing the size of lateral branches. When these become too crowded, or when particular ones assume a disproportionate vigour of growth and increase, it is highly useful to reduce the number or size of such over-luxuriant branches. The chief point to be attended to in the operation is that of dividing the branch at a point from whence a healthy secondary branchlet springs, that it may become the leader to that branch. When the shoot is of one year's growth only, and has no lateral shoots, as in stone-fruits trained on walls, the division is made near to a strong healthy bud, which will become the conducting shoot.

For young forest-trees which require the branches to be regulated and balanced, so that one side may not have a disproportionate number or weight of branches to the other, and for trees in hedge-rows whose lateral branches extend too far on either side, injuring the quick fence or the crops of the field, fore-shortening is the most useful mode of pruning.

For non-reproductive trees, such as all the different species of the pine or fir tribe of forest trees, this mode of pruning is improper. as the branch thus shortened does not produce a second shoot, but remains with all the objectionable properties of a *snag*, to the great injury, in time, of the quality of the timber. Where the purposes of evergreen masks, near the ground, in the margins of plantations are desirable, the foreshortening of the leading shoots of spruce firs, &c., is highly useful, as these trees do not afterwards increase in height, but only extend laterally by thin side branches.

The most effectual pruning instruments are a strong knife, hook, saw, and chisel. For pruning elevated branches a small saw firmly fixed to a long handle, is highly useful; a chisel, likewise furnished with a long handle, and driven by a hand mallet, is very effective in taking off branches close to the stem or bole, in circumstances where the saw cannot be freely used from the upright direction of the branch or the situation of the adjoining branches. Such are the manuals of forest-pruning. It may be justly said that in no one process of the culture of forest-trees is a just knowledge of vegetable physiology, or that of the structure and functions of the organs of vegetable life of more importance than in this one of pruning, which directly and especially applies to the assisting and directing, as well as the checking, of these functions in the production of wood as in forest-trees, and in that as well as of flowers and fruit in garden-trees. Some of the leading points of vegetable physiology which bear directly on the practice of pruning, have been mentioned in Chapter III., and full details may be obtained in the work there cited.

A timber tree, as before observed, is valued for the length, straightness, and solidity of its stem. Judicious pruning tends greatly to assist nature in the formation of the stem in this perfect state. In natural forests, boles or stems possessing properties of the most valuable kind are found, where no pruning, trenching, or any other process of culture ever was applied to the rearing of the trees. It should not, however, be concluded from this circumstance that these processes are of little value. If we examine the growth of trees in this climate, when left to the unassisted efforts of nature by the neglect of pruning and thinning, we find that but a small number only, on any given space of planted ground, attain to perfect maturity, compared to those which never arrive at any value but for fuel. The like results, though varying according to local advantages, are exhibited in the produce of self-planted forests. Hence, instead of an average of two or three perfect trees on any given space (suppose an acre) left by the unassisted efforts of nature, we shall have from forty to three hundred perfect trees, according to the species of timber, by the judicious application of art in the preparation of the soil and the after culture of the trees, and probably on soils, too, which, without such assistance, could never have reared a single tree.

But though judicious pruning greatly assists in the production of a tall, straight bole; free from blemish, yet unless those circumstances before mentioned are favourable, as a vigorous, healthy constitution of the plant in its seedling stage of growth, transplantation to its timber cites at a proper age, and a soil suitably prepared and adapted to the species of tree, pruning will be found but of small efficacy.

It was supposed that when branches are taken from a tree, so many organs of waste were cut off; and it has been practically insisted upon that, by the removal of large branches, the supply of sap and nourishment which went to their support would go to a proportionate increase of the stem. From what has already been stated respecting the course and movement of the sap, it may be unnecessary to add that this opinion is erroneous in principle, and that when a branch is cut off a portion of nourishment to the stem is cut off also specifically from that part of it which lies between the origin of the branch and the root, downwards to the root. Every branch of a tree, of whatever size it may be, not only draws nourishment and increase of substance from that part of the stem which stands under it, and from the roots, but also supplies these with a due proportion of nourishment in return, and by which their substance is increased. If the branch, whether large or small, acted merely as a drain on the vessels of the stem, and that the sap it derived from it was elevated to the leaves of the branch, and from thence returned no farther than to the origin or point of its union with the stem, then the above opinion would be correct: on the contrary, however, when it is found that the existence and increase of every twig, branch and leaf, depends on a communication with the root, and that this communication passes through the stem downwards to that organ, and from it upwards periodically, and, moreover, that every periodical series of new vessels thus formed in the branch has a corresponding series of vessels formed in the stem from its point of emitting the branch to the root, it is clear that a branch not only increases in substance by the functions of its own organization, but must of a necessity, periodically increase the substance or diameter of the trunk.

The results of practice agree with this; for if an overgrown limb or branch of a free-growing tree be pruned off, the annual increase of the diameter of the stem is not found to exceed its previous rate of increase; or the excess, if any, is not equal to the contents of wood which had been periodically formed by the branch or branches thus separated from the stem.

It is reasonable to inquire, if the sap or nutritive fluid, periodically supplied by the roots immediately connected with the large branch taken off goes not to a proportionate increase of the stem, to what channel is it directed? It has already been mentioned (in chapter III.) that the vessels which convey the periodical supply, and the roots which collect it, are annually produced; and the fact is, that when the primary organs and stimulus of production, (i. e. the leaves and green system of the plant,) are taken away, the annual rootlets and spongeols connected with these vessels cease to be renewed, until another branch, or series of branches, are reproduced by the vital power acting on the sap in the vessels of the stem connected with the numerous latent germs of buds in the bark near to the wound, or those dispersed in its neighbourhood. Hence it is, also, that should the season of the year of pruning the branch be that in which the sap is accumulated in the largest quantity in the leaves, and in the smallest proportion in the vessels, scarcely any reproduction of branches follows the operation of pruning; and hence, also, the different effects of summer and of winter pruning as regards this point.

When branches are not allowed to perfect one year's growth, but are pruned off annually within a bud or two of their origin with the stem, they act rather as organs of waste than those of increase of wood to the stem. But although the rate of periodical increase of the diameter of a tree be thus lessened, in a certain extent, by the loss of a full grown lateral branch, yet the increase of the stem in height or length is not thereby retarded, the ligneous vessels of the root corresponding with those of the stem or wood, probably act with but little diminished force in sending up sap to the higher extremities of the tree.

(To be continued.)

HORTICULTURE.

(From the Southern Agriculturist)

Some observations on the culture of the Cherokee or Nondescript rose, as a hedge plant: selected from the unpublished manuscripts of the late Stephen Elliott.

Read before the Horticultural Society of Charleston, October 13, 1831.

Along many parts of our sea-coast the want of timber begins to be seriously felt.

With the increase of our population, and the extension of our cultivation, the destruction of our forests has been proportionally great. The culture of cotton has accidentally added to the causes which were naturally waiting them. By diverting a great portion of the labour of the country into a new channel, and requiring for its successful cultivation a frequent change of soil, the woodlands were every where rapidly cleared; and in many situations no more timber was reserved than appeared to be absolutely necessary for the immediate use of the plantations. The storms which since the year 1804, have swept our sea-coast with unprecedented violence and frequency, have accelerated the progress of this evil. On the islands and on the exposed points of the adjacent main, most of the fruit trees which were reserved by the prudence of the proprietors, have been destroyed by the unaccustomed violence of the wind. The planters already in many situations begin to suffer from the want of timber for fences, and to perceive the necessity of procuring some substitute for this troublesome and expensive enclosure.

In countries where stone does not abound, hedges of living plants offer the only resource against the failure of timber: and where suitable plants can be discovered it cannot be doubted that hedges from their duration, their strength, and their exemption from accident are superior to wooden enclosures of any description whatsoever.

To the planters of this country who are beginning to suffer from the want of timber, and to those who may wish to give to their plantations the improvement which permanent and impenetrable fences will certanly bestow on them, I would recommend the culture of the plant now generally known in Carolina and Georgia, by the name of the Cherokee or Nondescript rose.

It is now about fifteen years since some observations I made on its habits and growth, led me to believe it would prove a most valuable hedge plant; as such I recommended it to many persons, but circumstances which it is unnecessary here to mention, prevented me from making any experiment but on a limited scale.

I have now, however, for the last four or five years been planting these hedges extensively, and I feel gratified in stating that the result has answered my most sanguine expectations, and I think, I may without fear of disappointment, congratulate this country in possessing a plant which for strength, for permanency, for facility of culture, and for beauty equals, and perhaps, exceeds the hedge plant of any country and of any climate with which we are acquainted.

The history of this plant is obscure. It was cultivated before the revolution by the late Nathaniel Hall, Esq. at his plantation, near Savannah river, and having been obtained from thence and propagated as an ornamental plant in the garden of Mr. Telfair, and the Mr. Gibbons' of Sharon and Beach Hill, under the name of the "Cherokee rose," it is probable that it was originally brought down from our mountains by some of the Indian traders.* Michaux met with it in the gardens in Georgia, and perceiving that it was an undescribed plant, he introduced it into the gardens near Charleston as a Nondescript rose. Hence it has obtained in that neighbourhood the popular but absurd name of the "Nondescript." In Georgia, it has always retained the name of Cherokee rose.†

In the year 1796, I obtained a few of these plants and placed them accidentally at no great distance from each other on a straight border of my garden. About two years afterwards the garden was destroyed and thrown into pasture and the plants entirely exposed. I afterwards removed from the plantation, and for a few years it was uncultivated. In 1802, the plants had already formed a substantial hedge, their long flexible branches falling to the ground and taking root extended themselves on every side. They soon met, and intermingling their thorny limbs formed a barrier which no quadruped could break, and which I believe no bird can penetrate.

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* Mr. Kin, a most indefatigable collector of the plants of the United States, and I believe a very worthy and honest man, assured me that he has found this rose on or near the Cumberland mountains, in Tennessee.

† As even the name of Cherokee rose is attended with some inconvenience and confusion, having been already applied, though improperly to the rose coloured Robinia. (*Robinia hispida, Lin:*) it may, perhaps, be not improper to introduce a new and appropriate name, and distinguish this plant as the "Hedge Rose."

This original hedge still remains on my plantation; it is employed now as a garden fence by one of my negroes; it has extended sixteen or eighteen feet in breadth, and its height nearly equals its width. It has been suffered to grow to this size partly from curiosity as its situation was retired, but principally because in its efforts to extend itself, it annually furnished a great number of layers and offsets for the formation of new hedges.

I have not entered into a description of this new plant, because in this country it is well known. I shall merely subjoin in a note its botanical character.* Its qualities are more important and it may be proper to detail some of the advantages which it eminently possesses. Approaching to a vine in its habit, its growth is rapid. Its branches are thickly armed with short strong and persistent thorns, and their flexibility enables the cultivator to give them whatever form he may prefer; as they take root readily wherever they touch the ground, and can be trained in any direction where they may be required, every weak place can in one or two months be strengthened by living plants, and with attention the whole hedge may be made a continued series of plants with their stems and branches so completely interlocked, and so strongly armed as to become to animals impenetrable. Even without attention this result generally takes place. Add to this that, as by layers the places of the old plants which decay can be immediately supplied, the duration of the hedge may be considered as interminable.

Although beauty in a hedge may not be an object of primary importance, it has some claims to notice, and may add some inducements to its cultivation. This Rose has been introduced into all gardens as an ornamental shrub, as a hedge it would decorate our fields, it would enliven the sombre and tawny hue of our sunburnt pastures. Its dark, lucid, and perennial leaves would give gaiety and animation to the bosom of winter, whilst its large snow white flowers would exhibit through the summer, a splendid contrast to its rich foliage.

Its cultivation is easy. It will grow without much difficulty from cuttings, but as its branches, if undisturbed, fall to the ground and take root, a few old plants will afford a very great supply of young ones with roots, and these if set out at any time between September and March will succeed almost universally.

It grows in all soils, but prefers a close and damp one. I have raised it, however, in the poorest and driest sand, but its growth was proportionally slow.—How it will bear submersion I have not ascertained. If it should not be easily destroyed by water, it will prove a great acquisition in the swamps along the margin of our large rivers, where the fences are often by freshets swept entirely away; and in their rich soils it will grow with great luxuriance.

It has resisted the cold of 1779 80, and 1796-97, the two severest winters within the recollection of most of the present generation. Of the former winter I have but an indistinct recollection, and with this plant I was not then acquainted; but in the latter it grew in my garden, and when the orange trees were almost without exception killed to the roots, this rose was uninjured.

The method of culture which has succeeded best with me, and which, I would, therefore, recommend, is to plant on the level ground, and suffer it to grow without support. It should be kept free from weeds and bushes for one season, and then, (except in newly cleared land where shrubs shoot up vigorously from old roots) it will protect itself. Its growth, however, will certainly be accelerated by care and attention. If planted on banks, the soil on their summit is generally poor and dry, and the plants grow slowly and require much nursing, and if planted near fences and supported by them, the branches will climb on the fences, and leave the base of the hedge where strength is most required, open and weak. When once a good and compact base is acquired, height is very soon obtained.

The oldest hedge on my plantation planted as I recommend, was used as a fence at the age of four years, by stopping a few gaps which had been used as paths by cattle. A single pannel of fence stopped each gap. This hedge is about 600 yards long. The plants were originally set out at a distance of ten feet. If they had been planted as near as five feet, I have no doubt that one year would have been gained. Indeed, in one part of this hedge where the ground is rich, it formed when three years old, a sufficient fence. I have now trimmed it to a width of seven feet, a space very little greater than a worm fence occupies and less than is necessary for a double ditch and bank, and I find it amply sufficient. The size and fashion of the hedge, however, may be regulated very much at the pleasure of the cultivator.

It may be proper to mention that the hedges on my plantation have been constantly exposed through the winter to cattle of every description, excepting goats. In February and March, sheep and cows eat the young shoots, but they have never injured the plants themselves although they have possibly retarded their growth. On the other hand it is probable that extensive hedges of this rose would afford a very considerable resource to cattle at that season of the year when food is most wanted.

These hedges will certainly require some work to trim them and keep them in good order; but this will be trifling when compared to the waste of time and labour necessary to repair our wooden fences. Besides the hedges can be trimmed at any season of the year when the planter has most leisure: and if neglected, even for years, no other evil will arise than the temporary loss of ground, occupied by their encroachments. The oldest plants can be trimmed without injury.

It, perhaps, is scarcely necessary to point out to the planters of this country the important consequences that may result from the general introduction of hedges on their plantations. By enabling them to divide their grounds into fields of different dimensions. They will have the power of varying their colture with ease, of making experiments at pleasure, of improving their pastures, and of arranging their crops not merely with a view to the immediate product, but to the future amelioration of the land and the convenience of their crop. The advantages of permanent enclosures would be felt in every branch of agriculture. They are the foundation of all improvement. And who in this country can encounter the trouble and expense of extensive wooden enclosures, when, besides the rapid decay of the material itself in a climate so unfavourable to its duration; gales of wind frequently level and injure them, and a neglected spark of fire may entirely destroy them. Hedges are entirely exempt from these accidents; they are planted and formed with little trouble, they strengthen with age, they bear injury and neglect, they defy the severest tempests, and their perpetual verdure secures them from the ravages of fire.

June 8th, 1814.

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* *Rosa Sepiaria?* Caule aculeato, decumbente foliolis ternatis, (rarissime quinatis) foliolis lanceolatis, acutis, serratis, coriaceis, glaber, dimis, lucidis, perennantibus, floribus solitariis albis calyce hispido, laciniis, lanceolatis longe acuminatis inequalibus duobus apice foliaceis serretis.

Nothing adds more to the respectability of a man than a character for probity in all his actions.

Nothing adds greater charms to beauty than modesty and affability.

(For the American Farmer.)

FRUIT—INQUIRY.

Cayuga county, N. Y. 12 mo. 24, 1831.

In reading *Lewis* and *Clark's* Travels, from the Mississippi to the mouth of the Columbia river, I made some notes in regard to the fruits which they discovered, for the purpose of enabling me to inquire, whether any of these kinds have been introduced into the eastern parts of the United States? And, if so, by what names these fruits are now known? and whether they prove as delicious to the cultivator as they did to our hungry travellers? Believing that the editor of the American Farmer, or some of his correspondents, can give the information requested, I forward the notes for publication.

"The Osage plum."

"The wild *cherry* of the Missouri, resembling our own, but *larger*, and growing on a small bush."*

"An *excellent fruit* resembling a *red currant*, growing on a shrub like the *privet*, and about the height of a wild plum."

"There is a fruit now ripe (August 24) which looks like a *currant*, except that it is *double the size*, and grows on a bush like the *privet*, and of a delicious flavor."†

The two last notes appear to relate to the same fruit.

D. T.

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* This is called in Missouri the sand cherry—arrangements have been made to get some in Baltimore next fall. [*Ed. Am. Farmer.*

† This is the Buffaloe berry, *Shepherdia eleagnoides.* See American Farmer, No. 5, Vol. 13. They are now cultivated in New York, (Prince's), Boston, (Winship's) and Baltimore. [*Ed. Am. Farmer.*

(From the Raleigh Register.)

WINE MAKING.

Messrs Gales & Son,—By an article in a late American Farmer it appeared that Mr. Herbemont of South Carolina, made this year from a vineyard in Columbia of about one eighth of an acre, nearly nine barrels of wine, that the wet season was very unfavourable, so that he lost three barrels or more by rot of the grapes. This makes the actual produce at the rate of seventy-two barrels to the acre, and the probable one, had the season been good, ninety six. Captain Burlingham, of Franklin county, made the year before last [what he has done since I know not] sixteen barrels of wine from about a third of an acre, and grapes were used by his family, by neighbours and visitors, without limit, probably enough to have made four barrels more, which would be at the rate of sixty barrels to the acre. Mr. Herbemont's best wine grapes are the Catawba and the Herbemont Madeira. Capt. Burlingham's vineyard consists of twelve Scuppernong vines of from ten to fourteen years old. Both trained on scaffolds eight or nine feet high. All the business of wine making by pressing is performed by four women and as many boys.

From these facts, no doubt remains that the wine culture would be very profitable, and ought to be pursued in North Carolina, for which our climate is peculiarly fitted. We have nearly run down our great staple, cotton, as we can and will every other article purely agricultural. It is true, the protection given to American manufactures has secured to us a great home market for cotton, and by keeping out those of India, has enabled us to continue to grow cotton to this time under its vast yearly-increase. But there is a limit to consumption and demand. The markets of the world are glutted with the article, and it is high time we had turned our attention to something else. We are told by the plodding, unenterprizing *Goodenoughs*, "that we want no change; that our farmers are getting out of debt; that our manufactures thrive, and furnish our clothing and necessaries cheaply; that our families are well supplied with the good things of life; that trade flourishes and our revenue is increasing—and therefore," they say, "let us proceed on, in the *good old way,* and not hunt after novelties." These objections and reasons, however specious and consolatory, are not conclusive. We may live—we may thrive; but it should be the object of us all to become rich, if the road to wealth lies fairly open before us.—The first wine makers will certainly derive great profits from their labour. Let us then early, and in good earnest, set about planting vineyards, concerning which I will say more hereafter.

When a vineyard is determined on, fix also the kind of vines you will cultivate. It is all important to begin right, to have good bearers, whose fruit will not be disposed to blight and rot, and that they are in all respects adapted to our climate. A very few kinds only should have a place in a vineyard, and in the vintage the grapes of these should not be mixed. Landreth says, very few foreign vines will produce grapes that either adhere or mature well in Pennsylvania, and I suspect the same will be found to be the fact, though in a less degree, in Carolina. Herbemont's Madeira, the Catawba, the Bland, and the Scuppernong, would probably be enough to commence with. Roots or layers should be obtained if possible. Cuttings for grafts or sets of most vines succeed very well if properly managed. Seeds will produce vines of the same botanical characters with the parent stock, but the fruit may be, and generally is, very different. The seeds of the white and sweet Scuppernong produce, for the most part, a purple grape of a comparatively rough austere character; but Gen. Bateman, Mr. Davenport, and other vignerons near the Scuppernong river, in Washington and Tyrrell counties, think it produces the most sound and durable wine, best calculated for improvement by age. The white Scuppernong, however, is preferred, because it makes the most palatable wine for immediate use, and we have not yet learned to practise the self-denial necessary to ripen wine by long keeping.

The peculiar excellencies of the Scuppernong are: It is a great and constant bearer, seldom blights or rots, and when ripe the grape will hang long, waiting your leisure to gather and press, without other change than growing richer by the delay. But the vine is propagated with difficulty by cuttings, and layers are not always to be had, yet if care is taken to envelope the cuttings in living moss for transportation, to plant them deep, and to shade and water them well for one or two years, a large proportion will live.

Experience affords but very limited aids for the management of vines in this state, where we have so few vineyards. A German, who obtained from the state a donation of land on the Brushy mountains, in Wilkes county, has commenced one; but if he adheres to the modes of another country and a different climate, I fear he will not succeed. Mr. Herbemont, whose experience both in France and America, united with his discriminating talents, eminently qualifies him to judge, says, the low pruning and sun exposure so necessary in France, is not admissable in the more ardent climate of Carolina. Many others entertain the same opinions, founded also on experience, and recommend to train on arbors as Mr. H. has done. Mr. Herndon, an enterprising citizen of Oxford, in Granville county, has several acres of various foreign vines, and his cultivation, like that of Major Adlum, in the vicinity of Georgetown, in the District of Columbia, is a partial compromise between the European and American modes. Mr. Laspeyre, a French gentleman, settled in Bladen, had a considerable vineyard near Elizabeth, but the public have not had the full benefit of his talents and experience, in consequence of his being called, in pursuit of his interests, to France, on the restoration of the Bourbons. There are also some other vineyards; and the garden culture of the grapes is considerable. Now if the members of assembly, met at Raleigh, would communicate to each other what they respectively know on the subject, this free interchange of information would profit the public as much as any legislative act of theirs; unless indeed they shall undertake, as it is hoped they will, to elevate the character and interests of our depressed state, by constructing a rail road from Beaufort to the interior. RICHARD.

RURAL ECONOMY.

Pomonkey, near Piscataway, Md.
MR. SMITH: *January* 6, 1832.

My Dear Sir,—As neither my experience nor observations as an agriculturist will permit me to contribute to "a suggestion" made in your valuable number of the American Farmer of the 30th ultimo, in lieu thereof I send you for publication, the remarks (upon the science of fishing,) of the late Col. James Fenwick, whose patriotic, respectable and scientific character, as well as public services, were well known to the citizens of our state in "auld lang syne," and are remembered by every one who had the pleasure of personally knowing him. I accidentally found these remarks the other day, in looking over the many valuable manuscripts of that estimable man, whose friendship it was my good fortune and happiness to possess, whilst he was living, and in every thing concerning whom, I now feel the most lively interest.

Yours most respectfully,
WM. L. BRENT.

INSTRUCTIONS FOR FISHERMEN,

By Col. James Fenwick, late of Pomonkey, Charles County, Maryland, written in 1823, *and found amongst his papers.*

PRELIMINARY REMARKS.

But few arts can be said to have attained perfection. The art of constructing ploughs perhaps the most useful to civilized man, unquestionably can boast of high antiquity, yet in our own times we not unfrequently hear of improvements in the construction of the plough. The same may be said of many other arts. Mankind owe a debt of gratitude, as well for those improvements, in proportion to their utility, as for the original invention. The art of *constructing seines* and of *hauling* them, is also of ancient date, for from the earliest times we read of the fishermen and of the net, and yet we see no attempt to improve them. I believe that a treatise upon that art would be upon a *new subject;* at least I have never known or heard of any, as I should most anxiously have sought for it, if I had heard of its existence. Conceiving myself in possession of a knowledge of some useful facts in relation thereto, which I have not found to be generally known, and which may perhaps contribute to lessen the hazards attendant upon that branch of industry, as well as instruct and amuse the public upon a subject of which it knows but little, I have thought it not improper to give them publicity, which I trust will not be unacceptable to those interested or to the curious and enlightened public. This is the principal object I have in view, but I shall intermingle such other observations as I may conceive to be appropriate to the *shad* and *herring* fisheries as carried on in the waters of our country, but particularly in the Potomac river in our state. When I first embarked upon the theatre of life and mingled in the business of the world, the local situation of my Pomonkey property, situated upon the bank of the beautiful Potomac, in the neighbourhood of several large and commercial towns, with great facilities of navigation to all parts of the Union, added to the easy and advantageous communication with an extensive and populous back country, seemed to point out that I ought to be a fisherman "to gather by the cast of my net." Since then I have given no inconsiderable application of the mind to that subject, which I have pursued with an ardour only equalled by the pleasure I took in the pursuit; I have sought information from all sources and have put into practice nearly every hint for improvement, which seemed to bear any plausibility on its countenance. Although I do not sit up the pretension of being the most competent person in the nation to instruct upon this subject, yet from an experience of more than thirty years, I am disposed to think, that some of my ideas will be new to many, and I am disposed to flatter myself, that my stock of knowledge thus acquired and promulgated, will not be entirely useless to my fellow-citizens.

SEINE-RIGGING.

Before I proceed to give the rules for calculating seines to any depths desired it is necessary to premise, that there are *two* different proportions in use amongst fishermen for *rigging their seines,* (to hang or attach the web or netting to the lead and cork lines, is called rigging a seine,) viz. the one to make the netting lose in the rigging, *one third* of its extended length, and the other *one fourth.* I will not decide peremptorily between these two proportions, as it might be difficult, by any train of abstract reasoning upon the subject, to establish the superiority of the one proposition over the other. The experience of every fisherman ought to be his guide. When I commenced the business I found the proportion of *one third,* to be the rule amongst those called old fishermen, and I understood it to be general. Upon an idea that *one fourth* would do as well, I ventured to try it, and with the precaution of having the lines or ropes well stretched, I may safely aver that I have experienced no inconvenience whatever, but on the contrary, in a particular case I shall hereafter mention, an evident advantage. It may easily be proven either geometrically, arithmetically or mechanically, that when *one fourth* only of the extended length of the netting is taken up in the rigging, the meshes form or hang precisely in *squares;* and when *one third* is taken up (to a person holding the seine up by the cork line) the meshes form or hang in *parrallelograms,* whose upright diagonals are longer than their transverse one; that is, they form four-sided figures, which are longer from their upper to their lower corners, than from their right hand to their left hand corners, and in this case, in the proportion of five to four.

It may be further proven, that if a piece of netting, extended first one way and then the other, be 12 by 12, when rigged to lose *one fourth,* it becomes 9 by 9, equal to 81; but when rigged to lose *one third,* it becomes 8 by 10, equal to 80 only, so that the same quantity of netting makes one eightieth more seine in one case than in the other. This arises from a principle well known in geometry, that *a parallelogram of sides equal to the sides of a square, does not include as much space as the square.* I shall not insist that this difference in the quantity of twine necessary to make a seine, should influence the fisherman; nor have I any predilection for the square, merely as such; but what advantages the parrallelogram figure possesses over the square figure, or why the square figure should not be preferred for all the purposes required in this case is inconceivable, in theory at least? It has completely answered my purpose in practice.

To pitch a seine to any given depth, it is necessary for the fisherman to determine before hand by what proportion he will *rig,* as he must proceed by different rules, corresponding to the different effects produced by the different proportions in rigging: the effects are simply these; when a netting is made to lose *one fourth* of its extended length in rigging, it loses also *one fourth* of its extended depth; but when it is made to lose *one third* of its extended length, it loses then only *one sixth* of its depth. From this, result the two following rules for calculating a seine to any given depth, as it may be intended to use either of those two proportions in rigging. If the *fourth* is intended to be used, the beginning string of meshes must be run to the length in feet, that it is intended to make the seine deep, and to the then number of meshes add one third more: example; suppose 15 feet depth is intended, run the beginning string of meshes until it is 15 feet and one third of 15 feet long, that is until it is 20 feet long: again, if it is intended to rig by the proportion of a *third*, run the beginning string of meshes as before and add on one fifth to the then number of meshes: example; suppose 15 feet is intended to be the depth, run the beginning string of meshes until it is 15 feet and one-fifth of 15 feet long, that is until it is 18 feet long. In the first example the extended depth of the netting being 20 feet and as was before observed, *one fourth* of that extended depth being lost by rigging with the proportion of losing *one fourth*, will reduce the depth to the 15 feet, as was intended. In the second example, the extended depth of the netting being 18 feet, and as before observed, one sixth only of that extended depth being lost by rigging with the proportion of *one third*, will reduce the depth to 15 feet as was intended. If there be fishermen who from long habit, would be under apprehensions at making so long a stride at once, from the *third* to the *fourth*, I recommend to such, as a general rule in *rigging*, preferable to the *third*, to take the middle term between those two proportions, which is easily found by trials upon the nettings. But, if it is intended to use such a measure, they must vary the rule for pitching the depth of the seine in a corresponding manner. In one of the preceding examples *five-fifteenths* were to be added to the beginning string of meshes when run to the depth desired, in the other *three-fifteenths* were to be added, but in this new case *four-fifteenths* must be added: The proportions then reduced to their lowest terms in whole numbers, would stand thus, viz., The netting would lose from its length *seven twenty-fourths*, from its breadth *five twenty-fourths*, and the longer diagonal of the mesh would be to the shorter as nineteen to seventeen.

I have endeavoured so to express myself as to make these rules for *rigging*, intelligible to every fisherman at least, who understands what is meant by the "beginning string of meshes."—The rules are infallible; and it is perfectly immaterial upon what sized meshes it is intended to pitch the depth of the seine. I have been thus particular in regard to these rules, because, although I will not say there are none, I solemnly declare, that I have never yet met with a fisherman, (and I have inquired of many), who knew any *certain* rule to calculate a seine to a given depth. They make a kind of random calculation, which may have answered their purpose tolerably well; they suppose their *mesh* of such a size, and that so many meshes across will make such a depth; whereas, I have generally found them far from knowing what are the *dimensions* of the mesh, as, from position, it applies in the seine, and equally far from knowing with precision, the *effects produced* by the different proportions used in rigging. This want of *precision*, in a point I deem essential, did not content me, but caused me to investigate the subject to the bottom; the result of which I have here given.

BREADTH OR DEPTH OF SEINES.

One of the first considerations with a fisherman, is to adjust the *breadth* or *depth* of the seine, to the *depth* of that portion of the water out of which he expects to obtain the greater part of his fish; and to avoid the inconvenience of having her much too shallow at the high water, or much too deep at the low water, so as to drag too heavily upon the ground, the measurement of the water should be made about the time of *half tide*. Perhaps more precision could be obtained by measuring at the *standing water* of the ordinary high and low tides, and taking the middle term between these two results. The seine should not only be as deep as the result so found, but one *eight* or one *tenth* more, in order to make allowance for that swelling out or external bagging or curving of the netting, caused by the resistance of the water in hauling. If the seine be well worked, as she should be, this resistance will necessarily cause the lower line, (or lead line as it is called), to rise from the bottom, so, that if the seine is merely the depth of the water, having nothing to spare when the resistance of the water against the netting takes place from hauling, it narrows so much, by the rising of the lead line from the bottom, that many fish will escape under the lead line, particularly shad which are timid, and immediately dive to the bottom upon any alarm. From my own consideration of the subject, and from the best means I have been able to devise to ascertain it, I am disposed to believe that the allowance mentioned is sufficient, although I will not disguise, that there are some, experienced fisherman too, who think that a still greater allowance should be made. I will here take the occasion to mention an opinion which I have heard, but for the correctness of which I cannot vouch; it is, that a seine considerably *shallower* than the water, will take *shad* nearly as well as if quite as *deep*, provided, the seine be thinly corked and heavily leaded, so as to make the lead line sink to the bottom. It rests upon the opinion before mentioned, that *shad* seek to escape chiefly by *diving to the bottom*. If this opinion be well founded, it would be a considerable relief to fishermen who have to haul in very deep water; and I should certainly advise any person in the proper situation, to make the experiment, as there are great intervals of time, during every fishing season, when herrings, in numbers not to be regarded, are to be expected, that a seine, thus lightly constructed, and for *shad* only, might be hauled to great advantage. The circumstance of my hauling in water not deep, is the reason why I have not put the correctness of this opinion to the test, which is well worth a fair experiment.

(To be continued.)

BOTS IN HORSES.

Mr. Smith: *Cambridge, Dec.* 28, 1831.

I hold it to be my duty to confirm the sentiment of conviction, expressed in your reply to "Agricultor," in No. 40, "American Farmer," that he did not design to be "discourteous;" this I assure you is perfectly true: and having performed this duty, I must add, that in my humble opinion, your analogies have been, as unfortunately selected, in your reply, as in your former paper; and, as their error in application, have a tendency to refer my remarks to the "ad absurdum" class of argument, I must claim the right of rectification, by a few and final observations.

Your original proposition which I undertook to controvert, was that "bots in horses are harmless, if not of sanitary use." The fallacy of your arguments, and those of Dr. Harden, adopted by you, I attempted, at least, to demonstrate, in my former paper; a repetition is needless; but why did you overlook, in your reply, the case stated by the Dr. himself, and referred to by me, as in direct collision with the theory, or, above named proposition: as I understand, you agree with the Dr. in his premises, as well as his conclusion. Dr. H. states, "that his horse died *suddenly*, and he was *immediately* opened, and the intestines were very much perforated. and some of the bots had gone *half through;*" it would seem, that, after this case, no question could remain on the subject; but you have skipped it, in your reply, though minute on other points; possibly it is a hard case, to surmount: it certainly proves that the bots *can* eat the intestines, when it may suit them, so to do; and very dexterously, and voraciously too; if so much was performed in so short a time, as "*immediately;*" but you insist, they did this, for *escape;* the Dr. thinks it was a "last meal," which must imply *one*, previously, at least; and this must have been when the animal was living—in fact at *some time*, the work was done; the *short illness* precludes the idea, of their being induced to this, by a sense of danger; and the "*immediate*" opening leaves no possibility of its being done, after death.

You adduce the "rat" and the "beaver;" the one, you say, cutting off his tail, the other eating a hole through wood, *for escape*, which you assimilate to the case of the bot, eating for the same purpose; one moment's reflection would have suggested to you, the total irrelevancy of your cases, or rather that they established my position "that nature has bestowed instincts unerringly and for useful purposes;" the rat and the beaver are constructed with organs of mastication, to eat hard substances, and they subsist on such; they may incidentally apply this structure, to obtain food, or make their escape, not so with the bot; to make them analogous you should have allowed the primary use of its organs of mastication, to be that of subsistence, incidentally applied to escape; this primary use, you deny, and the one assigned by you, I have before proved, must in the nature of things be forever fruitless; then by your theory no end is attained by the structure, and your inference drawn from the incidental use of these organs by the rat and the beaver, &c. that they must be presumed to subsist, the one on wood, the other on his own tail, with as much propriety as the bot, on the intestines which he has eaten, you say for escape, is to say the least, what logicians would call a "non sequitur;" indeed your doctrine holds, that the bot has organs to enable it to subsist by mastication, (for you admit it eats once) like the rat and beaver; but yet unlike these two animals, it never uses them for this purpose, but simply and solely for escape, which very unlike them, it never does, and as has been proved, never can accomplish by such means, though they are in your view the great primary and indeed exclusive purpose of their structure; whereas the rat and beaver making a secondary incidental use only of their organs for "escape," seldom fail in their attempt. But you say, bots are harmless, &c. in horses, and that they, as well as the œstrus "bovis, ovis," &c. "do not destroy the animals by actual consumption of the organized substance, but incidentally, by consuming the nutriment," &c. elsewhere too you say, "their food is furnished from the decomposed flesh (of the living animal) occasioned by their irritation, &c., and you say they do not eat sound flesh, and that they first corrupt it, and then feed upon it, and "that the same remark applies to all insects, that inhabit animals."

I conceive that the *modus operandi*, allowing it to be correct, would not assist your proposition, the *effect* would be the same, were the *manner* settled in your own way: you admit the organized substance is destroyed by them, and if done by any process or manner, then the question is concluded, and the bots in horses may produce corruption, sinuses, and perforations on the living animal, by your own admission, by your own adduced cases, and by the evidence of Dr. Harden himself, in the case of his own horse:—*quod erat desideratum.*

The instinctive horror manifested by horses, on the approach of the "bot" or "gad fly" you say, proves nothing in favor of my argument "that bots do kill horses," and you deny the unerring instinct upon the ground, as you say, "that the very effort induced by this instinct, and that alone, enables the instrument of death to do its work;" really I should not see the point of this remark, had you not assumed that an opinion was existing which I am certain was never before conceived, &c., that the horse is induced by instinct to "bite off the eggs from his hair and swallow them, to guard against death by them;" this is I believe, quite original, and no doubt erroneous, and the error you have fallen into cannot be received as an argument against the truth of instinct, for which purpose you offer it in much stress and confidence;—the fact is, that the horse bites to scratch himself wherever he can reach; unerring instinct leads the "fly" to deposit its eggs on parts within his reach, and thus he receives them; the only instinct of the horse in regard to this insect is to dread and avoid it, these respective impulses are natural and unerring, but measurably counteracting each other, in effect by the obvious design of Providence to prevent the annihilation of the one, by limiting the action of the other, this surely does not constitute the *error* in instinct, which you allege, but *truth* and *wisdom,* so are the respective "*impulses,*" "*horror,*" and "*caution*" bestowed by nature on the hawk and the partridge, the hound and the fox, and so in fact with the whole animal creation, setting limits to the voracious predatory, by correlative devices of the prey.

The case which you adduce of a "drowning man catching at a straw, though he is never saved by it," as analogous to that of the bot eating for a fruitless attempt to escape will not apply in force until you have proved that like the bot, in your view, so man is organised for fruitless purposes alone.

In the term "challenge" which I applied to your "invitation" of scrutiny on this subject, I intended no more than a mere synonym; in fact it was accidentally substituted for your term, and with no exceptionable views.

I hope your liberality will accept this paper as a necessary rejoinder to your reply, and I beg you to be assured, truly of .the high personal regard of

Agricultor.

MISCELLANEOUS.

(From the Genesee Farmer.)

STATE AGRICULTURAL CONVENTION.

In our last, we copied from the New-York Farmer, a letter from a gentleman in Saratoga county, giving his views upon the utility of organizing State and County Agricultural Societies, also recommending a State Agricultural Convention to be held at Albany, on the fourteenth day of February next. We further learn, that this proposition is approved by most of the eastern counties; and the prospect is now that such a convention will be held at the time and place above mentioned, to take into consideration the propriety of forming such societies, upon such principles as shall be thought most likely to benefit the practical Agriculturists throughout the state.

When we take into consideration the vast importance of the object, as compared with many others, upon which, not only state but national conventions have been called, we cannot but hope that every county in the state, but more especially those of Western New-York, will think it for their interest to be represented.

We are fully aware that many entertain prejudices against such societies, which were founded upon the unequal effects of those once established in this state, which served to distribute premiums, where an unprofitable course of cropping was pursued, rather than information concerning the fundamental principles of Agriculture, and their application to the every day business of the farms; yet all will acknowledge that there was a spirit of inquiry, engendered during the existence of those societies, which had a very beneficial effect upon community; and in one or two instances(as in Jefferson county) where those societies have been kept up, after the patronage of the state was withdrawn, they have fully met the most sanguine expectations of their friends.—Those societies were not continued long enough to correct the evils growing out of the want of practical knowledge on the part of many who were most ardent in their support; or in other words, the practical farmers, in giving up the management of them to incompetent men, did themselves much injury. Should there be a re-establishment of Agricultural Societies through the state, the past will prove a lesson, admonishing farmers not to trust their own business too much to others, as zeal is not always a proof of superior knowledge.

Although such societies should consist principally of practical men, yet it would not be policy to exclude all others, for we find that it frequently happens, that mercantile and professional men, render essential service to Agriculture, by the introduction and distribution of valuable breeds of animals, &c. The constant intercourse which many of our merchants have with foreign countries, makes them important auxiliaries to Agriculture; yet, those men who have taste, and love of country enough to appropriate money for these purposes, would do so with the same promptness, *and perhaps more,* when they knew that in every instance, every such investment would be adjudged by those who were the most capable of appreciating their real value.

As there is now some feeling manifested by farmers in different parts of the state, to meet and consult on the importance of establishing state and county societies, we hope that printers friendly to the interests of the husbandman, will take the trouble to diffuse such information as may come within their knowledge, seasonably, that the different counties may meet and consult upon the mode of operation and representation, should they opprove of a state convention. In taking this matter into consideration, it may be well to look at it in a national point of view. The time seems big with events affecting every civilized nation. England and France have long been looked up to by other parts of the world, as patterns in Agriculture and the arts; one has for years past been consuming in her own internal fire, and sounds issuing from the other, are portentious of an explosion which may not "leave a wreck behind." What nation theo will take the fore-ground? The motto of the Americans is 'Onward!' 'Onward!'

(From the New York Farmer.)

Immense Number of Mice.

In a forest planted by Lord Glenbervie, the mice, threatened its entire destruction. The following is an extract from the Horticultural Register for August, 1831.—*Ed.*

"In short, holes about two feet long and ten inches broad at top, and somewhat larger every way at the bottom, were made at twenty yards apart, over about 3200 acres of plantation; persons went round early in the morning, to destroy such mice as might be found in the holes. "In this way, besides what the owls, hawks, magpies, and weasels took out of the holes (and several of these depredators lost their lives in attempting to seize their prey,) 30,000 mice were paid for by government, nor where they extirpated until they had destroyed, in four inclosures, amounting only to 1700 acres, the astonishing number of 200,000 five year old oaks, together with an immense number of acorns and young seedlings."

"It is said by naturalists," observes Mr. Billington, "that the beaver will fell trees with his teeth, but I have never seen an account of mice felling oak trees; yet I have seen many trees 7 or 8 feet high, and an inch and a half in diameter, cut down by them. When examining for the thick part of the root, below where it was bitten off, I could never find any part of it left, so that it is very probable it was eaten by them. I have by me several trees so cut down, for the inspection of any person who may be desirous of witnessing, with his own eyes, the wonderful powers of so diminutive a creature as the mouse in felling trees.'

THE FARMER.

Baltimore, Friday, Jan. 20, 1832.

Grape Seed.—Mr. Herbemont of Columbia, S. C. has sent us a quantity of Grape Seeds of various kinds for distribution, which we shall be happy to send to those disposed to receive them.

We give "Agricultor's" communication on bots, a place in this number of the Farmer. We do not think it necessary to argue the question further at present, believing that enough has been said in illustration of the theory that bots do not kill horses, and in reply to objections urged against it, to enable all persons to form an opinion for themselves. As to our passing over Agricultor's remarks upon the case cited by Dr. Harden, in which the horse was opened "immediately," we really did think that that part of his communication might be "sent to the jury" without comment. Dr. Harden's communication in our last, however, has probably satisfied Agricultor on this point. Surely Agricultor could not have supposed that Dr. Harden meant any thing more by the word "immediately," than to say that the horse was opened as soon after death as it could conveniently be done. To suppose that he intended to convey the idea, that the death of the horse and the exposure of the intestines to the view of the dissector were simultaneous, is unreasonable. He meant, no doubt, to say, that during the time which elapsed between the death of the horse and the exposure of the intestines, which was necessarily considerable, though the operation was commenced "immediately," or as soon as possible, many of the bots had penetrated half through. We were satisfied that our readers generally would put this construction upon the sentence.

We beg "Agricultor" to be assured, that the editor of the Farmer does not consider it an evidence of liberality on his part, to admit communications which controvert his opinions; on the contrary, he is always glad to receive and publish them, and would at all times take equal pleasure in listening to both sides of the questioo. The theory that meets with no opposing arguments, is generally considered too absurd, or too simple for discussion, and consequently makes poor progress in public favour.

☞A typographical error occurred in the communication of "D. T." oo peaches, in the 41st number. Speaking of the specific characters of the peach and almond, "D. T." said—"In *Mitchella, Linnœa, or Xylosteum,* no part of even the generic character is more unvarying than the *geminate* position of the flowers." The word geminate was printed *germinate,* which spoiled the sense.

Fishing.—We owe our thanks to Wm. L. Brent, Esq. of Piscataway, for the manuscripts of the late Col. Fenwick, on the subject of fishing. Besides the intrinsic merits of the essay, it has a quality which must commend it to the attention of the public: it is a treatise on an entire new subject; for it is believed that the science of fishing with the seine, has never before been made the subject of an essay. The remainder of the manuscript will probably occupy about an equal space of two more numbers of the Farmer, and we feel assured that all of our readers, especially those interested in the shad and herring fishery, will peruse them with interest

Planting Mulberry Trees.—We are frequently asked at what distance we would plant white mulberry trees, for the purpose of feeding silk worms. If it be intended to form full grown trees, thirty feet apart each way, is probably the nearest that it would be advisable to plant them. Where land is abundant, forty feet would be preferable. The full grown tree generally covers a circle of twenty-five to forty feet diameter. If the hedge form be preferred, the young trees may be planted one to two feet a part; the tops to be cut off in the fall or winter of every year. In this mode the great advantage of gathering the leaves without climbing is secured. The hedges might be planted fifteen to twenty feet apart, and thus an acre would produce as much foilage as if occupied by large trees, and there would be a great saving of time in the production of the hedge, compared with that required to produce the large trees.

FOREIGN MARKETS.

Liverpool, Nov. 26.

Cotton market languid; total sales 10,300 bags; 100 S. I 14¾ a 17½; 2000 N. O. 5¾ a 7¾; 1540 Alab. 4¾ a 7d; 4160 Bowed 5 a 6¾d. 300 Am. taken for export. Ashes in limited demand. Tobacco in good demand. Transactions in bonded Flour and Grain not extensive but prices steady. In hides no improvement.

Prices Current in New York, Jan. 14.

Beeswax, yellow 18 a 19. *Cotton*, New Orleans .10 a .11½; Upland, .7 a .10; Alabama, .7½ a 10½. *Cotton Bagging*, Hemp, yd. 14½ a 17; Flax 13 a 14½; *Flax*, American, 7 a 8.——*Flaxseed*, 7 bush. clean .—— a —— *Flour*, N. York, bbl. 6.50 a ——; Canal, 6.87 a 7.00; Balt. Hwd.st. 6.75 a 6.87; Rh'd. city mills —— a 7.00; country, 6.50 a ——; Alexand'a, —— a 6.75; Fredericksburg 6.37 a 6.50; Petersg. —— a ——; Rye Flour, 4.62 a 4.68; Indian Meal, per bbl. 3.37 a 3.50; per hhd. —— a 16.50; *Grain*, Wheat, North, —— a ——; Vir. 1.16 a 1.20; Rye, North, — a 95; Corn, Yel. Nor. 73 a —; Barley. —— a ——; Oats, Sth. and North, .44 a 50; Peas, white, dry, 7 bu. 5. Beans, 7 bu. 7.00 a 8.00; *Provisions*, Beef, mess 9.00 a 9.25; prime 5.50 a 6.25; cargo —— a ——; Lard, 10½ a .11; Pork, mess, bbl. 13.50 a 14.00; prime 11.50 a 11.75.

GRAPE CUTTINGS, &c.

William Prince & Sons, near New York, offer for sale the following: 30,000 cuttings of the Isabella, Alexander or Schuylkill Muscadel, Catawba, Winne, Herbemont's Madeira, Bland, Elsingburg, Elkton, Worthington, White Fox, Lufborough, Long's Arkansas, Missouri, Muncy, Norton's Virginia Seedling, Scuppernong, York Madeira, and other native and foreign grapevines at reasonable rates.

Scions of Fruit Trees for ingrafting which can now be sent with safety to any part of the Union, will be supplied of all the various kinds.

Above 150 varieties of Double Dahlias, including the New Anemone flowered, and dwarf varieties, and also several White flowering varieties.

500 New Chinese Mulberry or Morus Multicaulis, so superior for silk worms.

500 lbs. of seed of the Yellow Locust tree, of the Long Island variety, so noted for ship timber.

The following seeds are daily expected from Europe, and will be supplied at low prices.

1,000 lbs. Luzerne.
300 lbs. French Sugar Beet.
300 lbs. Mangel Wurzel
500 lbs. Scotch White Cloverseed, and various other agricultural seeds.

Orders for these articles, or for Fruit Trees, Flowering Shrubs, and Plants, Green House Trees and Plants, Bulbous Flower Roots, &c. will receive the utmost attention. Orders can be sent per mail, and catalogues will be sent to all those who desire them.

GIDEON B. SMITH,
Agent, Baltimore.

Jan. 13—3t.

DEVON CALVES.

A pair of beautiful Devonshire Calves, six months old, male and female, of the original stock from Mr. Coke of England, for sale by GIDEON B. SMITH

BULBOUS FLOWER ROOTS.

The subscriber has for sale a small but elegant assortment of Tulips, early double and single Van Thol, and common kinds; Crown Imperials and Persian Fritillaries; Polyanthus narcissus, yellow and white fragrant; Yellow fragrant and White fragrant; Double and single fragrant Jonquils, &c.

A few of his splendid collection of new Pæonies and Hemerocalises yet on hand.

BUFFALOE BERRY TREES.

The subscriber will receive in a few days a few of the new and beautiful fruit trees originally from the Rocky Mountains, mentioned in No. 5, vol. 13, Amr. Farmer, called *Buffaloe berry tree*, or Shepherdia. This is one of the most beautiful of all ornamental trees, bears delicious fruit, and is perfectly hardy—*price $1 each.*

GIDEON B. SMITH.

AGRICULTURAL WAREHOUSE AND SEED STORE.

The subscriber feels much pleasure in returning his thanks to the public for the very liberal patronage given to his agricultural establishment during the past year. The increased demand for the Davis Ploughs, and the still much greater increase in the demand for his *Patent Cylindrical Straw Cutters*, is highly flattering to him, as it not only expresses the confidence which the public have placed in him, but proves that his patrons have not been disappointed. He hopes that he may yet be rewarded for the six years time which was spent entirely in making his improvements in the Straw Cutter, and eight or ten years more in introducing them to the public. Having now, upwards of four hundred of them in use in the various parts of the U. States, and to the entire satisfaction of all who have them, he can recommend them with the fullest confidence.

He has a pretty general assortment of Agricultural Implements, and of the most approved kinds, and such as he trusts, while he recommends them, they will also recommend themselves on trial. Also, a general assortment of Garden and Field Seeds, &c. &c.

J. S EASTMAN,
Pratt street near Hanover.

Jan. 3, 1832.

FRUIT, ORNAMENTAL TREES, SHRUBS, AND PLANTS.

SINCLAIR & MOORE,

Inform their friends and the public generally, that their stock on hand this season is large, of thrifty well grown trees, except those marked on the catalogue. The fruit in this establishment are all carefully grafted or inoculated mostly from bearing trees, of the choicest collection of American and European fruits.

This nursery will afford purchasers in our own state the important advantage of planting their trees on the first, second, or third day after they are taken out of the ground, (provided the holes for the trees are previously dug, which they always ought to be,) having quick transportation to most every part of the state.

Printed catalogues for this season describing the names of plants, time of ripening, and price, as also directions for planting, to be had gratis at their Plough and Seed Store, Pratt street wharf, Baltimore, or at their Nursery, three and a half miles east of the city, between the Philadelphia and Bellair roads; the best and nearest way to go to it is by going out the latter road two miles, to a pointer of further direction. The senior partner resides on the premises, and constantly superintends the same, and would be pleased to see persons disposed to encourage, or view their extensive collection, where they can see and choose for themselves.

For the information of those who are not in possession of a catalogue, they will mention some of the principal articles ready for sale, to wit:—

Apple, Pear, Peach, Plum, Cherry, Apricot, Nectarine, Fig, Gooseberry, Currant, Raspberry, Strawberry, Quince of sorts—Grape Plants, fine size, many choice kinds, Thorn and Honey Locust for hedges.

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English Elm of middling and extra large size.
Italian White Mulberry, of do. and large do.
Horse and Spanish Chestnut.

Linden and Sugar Maple Trees, Paper Mulberry, Abeal or Silver leaved Poplar, Yellow and Honey Locust, Chinese Aleanthus, or tree of Heaven, English Walnut, Mountain Ash, Buttonwood, Black Walnut, &c. &c. Balm of Gilead, or Silver Fir, White or Waymoth Pine, Dwarf Box, Cutting and Rooted Plants, Black Double Spruce, Arborvitæ.

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Roses, both hardy and Chinese or ever blooming, a good assortment, Double Althea a superior collection, Linock five kinds, Snowberry Tree, Grounsel Trees, Roseacacia, Corchories, Scarlet Trumpet Creeper, White Flowering Virginbower, White Flowering Jasmine, Yellow Flowering do., Scarlet Trumpet, Monthly Honeysuckle, White Striped Monthly do. of exquisite fragrance, Multiflora Rose, Graville's Superb Multiflora, cuttings of Grape, Apple, Peach, &c.

AGRICULTURAL BOOKS.

A variety of the most approved works, both Foreign and American, on subjects connected with Agriculture, Horticulture, Farriery, &c. kept for sale at this office.

BALTIMORE PRICES CURRENT.

Baltimore Market.—The navigation has been partially opened by cutting the ice, and flour and grain are becoming more active. The wagon price of Howard street flour yesterday, was $5.50, but a decline was anticipated, as sales from stores have been made at the same rate and no more could be expected. Wheat advanced a little on the appearance of the first cargoes, but is not expected to continue as high as now quoted. Wood has fallen considerably.

Tobacco.—Seconds, as in quality, 3.00 a 5.00: do. ground leaf, 5.00 a 9.00.—Crop, common, 3.00 a 5.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 10 00; yellow and red, 8.00 a 14.00; yellow, 14 00 a 16.00.—Fine yellow, 16.00 a 20.00.—Virginia, 4.00 a ——.—Rappahannock, 3.00 a 4.00——Kentucky, 3.50 a 8.00. The inspections of the week comprise 1 hhd. Md.; 17 hhds Ohio—total 18 hhds.

Flour—best white wheat family, $6.75 *a* 7.25; super Howard-st. fresh 5.50 *a* ——; city mills, $5 37½ *a* —— *a* ——; Susq.— *a* —; Corn Meal bbl. 3 50; Grain, Md. red wheat, 1.00 *a* 1.09; white do.—— *a* ——, Susq. — *a* —Corn, white, 54 *a* 55—yellow 54 *a* 55—Rye, 82 *a* 84 —Oats, 38 *a* 40.—Beans, 75 *a* 80—Peas, 65 *a* 70—Clover-seed 5.25 *a* 5.75—Timothy, 2.50 *a* —— Orchard Grass —— *a* ——Tall Meadow Oat Grass 2.00 *a* 2.50—Herd's, 75 *a* 1.00—Lucerne — *a* 37½ lb.—Barley, —Flaxseed 1½ *a* 1 5-8-Cotton, Va. 7½ *a* 9-Lou. 9 *a* 12—Alab. 8 *a*. 10—Tenn. .7½ *a*. 9; N. Car. 8 *a* .9½—Upland 8 *a* 10—Whiskey, hhds. 1st p. 32 *a* —; in bbls. 33 *a* 34——Wool, *Washed*, Prime or Saxony Fleece 49 *a* 57; American Full Blood, 47 *a* 55; three quarters do. 41 *a* 47; half do. 35 *a* 41; quarter and common do. 32 *a* 35. *Unwashed*, Prime or Saxony Fleece, 30 *a* 34; American Full Blood, 27 *a* 30; three quarters do. 25 *a* 27; half do. 22 *a* 25; quarter and common, 19 *a* 21——Hemp, Russia, ton, $225 *a* –; Country, dew-rotted, 5½ *a* 7c. lb. water-rotted, 7 *a* 9c.—Feathers, — *a* 37½; Plaster Paris, per ton, 4.75 *a* ——, ground, 1.37½ *a* —— bbl. Iron, gray pig for foundries per ton 33.00 *a* ——; high pig for forges, per ton, 28.00 *a* 30.00; bar Sus. per ton, 72.50 a 80.00.—Prime Beef on the hoof, 3.25 *a* 4.25—Oak wood, 4.00 *a* 4.50—Hickory, 5.50 *a* 6.00.

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Prize Essay, at the Liverpool Agricultural Society's Annual Meeting, 1831; by the Rev. Henry Berry, concluded—On Planting, (from the Library of Useful Knowledge,) Of the Culture of Plantations; Soil, Pruning, Thinning; Remedies for Accidental Injuries and Natural Diseases of Forest Trees; Of the Tanning afforded by the bark of Different Species of Trees—Some Observations on the Culture of the Cherokee or Nondescript Rose, as a Hedge Plant; selected from the unpublished manuscripts of the late Stephen Elliott—Fruits—Inquiry—Wine Making—Instructions for Fishermen, by the late Col. James Fenwick, late of Pomonkey, Charles Co. Md. written in 1823, and found amongst his papers—Bots in Horses—State Agricultural Convention—Immense number of Mice—Editorial—Prices Current in New York and Baltimore—Advertisements.

EDITED BY GIDEON B. SMITH.

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AGRICULTURE.

(For the American Farmer.)

CHEAT OR CHESS.

"Do you believe that wheat ever turns into chess?" said a neighbour to a person within my hearing. "I believe no such absurdity," was the reply. "It no more turns into chess than copper turns into gold—no more than sheep into swine—no more than currant bushes turn into grape vines." "And you give it then *as your opinion*, that wheat will not turn into chess?" "No indeed—I state it *as a fact*."

Other conversation on the subject occurred; but this was enough to lead me to reflect on the difficulty of demonstrating truths of this nature to uncultivated minds. Even the simplest propositions in geometry are not to be understood without some preliminary knowledge; and if we say to an unlettered rustic, "An angle in a semicircle is a right one," he must first learn some of the properties of lines and angles before the irresistible evidence of that beautiful truth can be felt.

It is, therefore, not surprising, that those who have never studied, nor understood the immutable boundaries between plants of different *genera* and *species*, should not perceive the absurdity of wheat turning into chess.

In the same dark period of the human mind in which this notion originated, many believed that the baser metals could be turned into gold; and even that men could be turned into swine. With an increase of knowledge, however, these shadows have nearly disappeared. A few who have not examined the grounds of these *venerable* notions, may still adhere to them as remnants of the wisdom of antiquity; but every honest inquirer after truth, must soon extricate himself from this thraldom.

Amongst those who differ from me on this subject, I know there are many intelligent men, whose opinions on other points I hold in the greatest respect; and to whose counsel I should resort with great confidence in cases of difficulty; but let it be understood, it is only such opinions as have resulted from diligence and care that I respect. Opinions in regard to things which they have never considered or studied, ought not to be of this number. If we have a suit in court, do we fee a merchant or physician? If we are sick, do we send for a painter or a lawyer? The common sense of mankind indicates that he who has examined a matter *most*, ought to understand it *best;* and that he who has not examined it *at all,* might do well to suspend his judgment.

The doctrine of the transmutation of metals, has enlisted greater names than the doctrine of wheat turning into chess; yet who are holders of that notion at this day, if any such exist? There is not one respectable chemist among them. If we ask the chemists, Do you believe that copper can be turned into gold?—they might good-naturedly answer, 'Both gold and copper are simple substances, incapable of any further reduction; but no combination or alloy is a simple substance; therefore no combination or alloy can be gold.'

Let us ask the farmers (and those farmers who believe that wheat turns into chess,) .Do you believe that sheep ever turn into swine?—and their risible muscles would be strongly affected. If we urge the very different and many varieties which occur amongst sheep, as an argument of their occasionally turning into swine; if we contrast the Scotch dwarfs, weighing six pounds a quarter, with those of Yorkshire or Durham, weighing sixty pounds a quarter; if we insist that the common sheep, with the tallow round its kidneys, more resembles swine than it resembles the African* sheep with the tallow on its tail—would our intelligent farmers believe us? Not quite. They would say, "sheep in any shape are sheep, and not swine. It is contrary to nature for one animal to change into another."—Indeed! but not more contrary to nature than for one plant to change into another. Wheat in any shape is still wheat, and not chess. No plant spreads into varieties beyond its own species or kind. Of the almost infinite varieties of the apple, none have ever turned into the pear or the quince, yet the pear and the quince are nearer allied to the apple than chess is to wheat. Chess not only belongs to a different genus from wheat, but modern botanists arrange it in a different tribe of the same natural order.

It might be shown, that common wheat has never been remarkable for polymorphus varieties; but this would only relate to a philosophical view of the subject. When wheat changes into chess (according to the popular notion) it is not on the principle of diverging into varieties, nor on the principle of hybrid productions; but good and genuine wheat, after it has grown into a good and genuine wheat-plant, *in consequence of some injury*, turns into chess—that is, shoots off into another genus, amongst more than sixty other well defined species.—Rather an extraordinary *intrusion*, however, for nothing analogous has been ascertained in the whole kingdom of nature.

But of what use are inductive arguments to him who has seen wheat turn into chess?—or at least has detected it in a half-way state. Three instances have been reported to me, of chess and wheat growing from the same root,—and by most respectable witnesses; for one was a grave senator, and another a learned and presiding judge from the bench,—and two more positive gentlemen I have not seen. All this, however proved nothing more, than that they honestly believed what they said. Neither of them knew. (I presume) the meaning of either *genus* or *species* in botany; and their researches in vegetable physiology were not greater than their neighbour's. Only one of those plants was submitted to a competent inspector, and he declared the *supposed* head of chess, a shriveled wheat-ear. In another case, where these plants were believed to grow from the same root, it was found, on closer examination, that the roots were only interlaced or entangled.

A member of a learned profession, had a fallow-field prepared for wheat; part was sown just before a flooding rain; and at harvest a far greater portion of chess was found in this part, than in the remainder of the field. Now, to his mind, the inference was irresistible, that the wheat, injured by the mud which was washed over it, had turned into chess.

We have a right to ask, Why he believed that wheat could be turned into something different from wheat? Because he had been told so. Why believe it turned into chess more than into spear grass which also grew near it? Because he had been told so. Why not believe that the wheat perished, and that chess sprung up independently from its own seed, like other weeds? Because he had *not* been told so. And is this kind of evidence conclusive to a votary of science? Would a chemist, under this system of logic, achieve any thing new or useful? Yet that man was eminent in his profession, possessed fine sense and quick perceptions—and this *oversight* was only an exemplification of the proverb, "What we are taught to believe in early youth, is often confirmed to us in after life by very slender evidence."

He believed his seed wheat was clean; but of the following particulars he said nothing, and probably had never given them his consideration: Chess is a weaker but *hardier* plant than wheat. In seed-wheat, a grain of chess, from its small size, often escapes the notice of a careless farmer. With the tailings from his fanning mill, it often escapes the grinders of his horse, of his cows, and of his hogs, which swallow it and then scatter it into every field that is open to their wanderings. With the manure of his barn-yard, it is spread over his fallows, and then lies in wait to fill any vacancy that occurs,—whether the wheat is scratched up by his hens, or bit down by his geese,—whether it is thrown out in winter, or pastured late in spring. If the wheat is thick and stout, the chess is small and short, often remaining among the stubble; and in this manner it abounds, without requiring us to violate any order of nature when we account for its appearance.

A farmer who allows his fields to be seeded in this manner (as perhaps all farmers do who believe that wheat turns into chess), may talk of his clean seed, but not of his clean fallows,—for it is doubtful if there is any spot free from chess in his neighbourhood. He sows wheat, a part disappears, and chess grows amongst it. He declares the wheat has turned into chess. He puts his sheep into pasture, a part disappears, and strange, swine are amongst them. He declares——that the sheep have turned into swine?—Why not? The cases are parallel, and the inferences *equally conclusive.*

I may be asked, If chess is not the spurious offspring of wheat, why is it always found in wheat-fields in bad seasons? To this I answer, That is not the case. My worthy friend, Matthew Roberts, Esq., of Upper Merion, near Philadelphia, whose veracity will not be impeached, has assured me, that *for many years not a stalk of chess had been found in his wheat fields.* This simple fact proves, that *chess only grows from its own seed,* and cannot owe its origin to wheat.

I regret that a notion so pernicious, so preposterous, and so nearly allied to superstition, has infected the minds of our countrymen; and blinded our farmers to their true interests. Like most other evils, however, even this may be mitigated. Let our young farmers study the philosophy of botany, and this notion will soon be unfashionable. Let their fathers make clean fallows, and sow clean seed-wheat; if their fanning mills are imperfect, let the sheaves be hand picked, and one weed from their farms will be speedily exterminated.

P. S. One of my young friends has determined to prove to his neighbours, that *chess only grows from its own seed,* by extirpating the weed from his farm. This is taking hold of the business at the right end.

Gideon B. Smith. David Thomas.

(From the Albany Argus.)

STATE AGRICULTURAL SOCIETY.

The proposition for a State Society, with branches, or auxiliary associations, if deemed advisable, for the promotion of agricultural and horticultural improvement has been often suggested, particularly in the New York Farmer, and in the last number by a writer who dates from Saratoga, in whom, if I mistake not, I recognize one of the most enterprising and intelligent, as well as one of the best practical farmers of our country, and whose zeal I know is prompted by an ardent desire to promote the public interest. This writer has proposed, that a meeting be held at Albany, on the 14th day of February next, for the purpose of organizing such a society.

I freely accord to the utility of such an association, if its objects, are limited to what is attainable and proper; and I commend the subject to the attentive consideration of all who appreciate the importance of these great branches of industry, and who are desirous of seeing them thrive and prosper among us.

Without being apprised of the views of the gentlemen who have proposed the convention, I take the liberty of suggesting some of the advantages which I think may result from the formation of the proposed association. And

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* "The animal has little other fat, the tail being in him the repository of that fat which lays about the loins of other sheep."—Livingston's Essay on Sheep. "The broad-tail sheep of Asia and Africa is extremely similar to the European breed in almost all respects, but that its tail is of an immense weight varying from fifteen to fifty pounds, under which the shepherds are reported to place a board with wheels, to facilitate the animal's movements."—Nicholson's Encyclopedia.

1. By an interchange of opinions upon the different branches of husbandry and rural improvement, which the association would give rise to, the knowledge, experience and skill of individual members, would at once be rendered subservient and beneficial to all. The practice of one's life is insufficient in any business, without drawing upon the experience of others. The greater the facilities of obtaining this auxiliary aid, the more rapid is our progress in improvement. Improvements in husbandry depend on the progress of knowledge, and the opportunities of intercourse with practical men. The people of Asia, borne down for ages by the weight of despotism, and ignorant of the means which science and skill are elsewhere bringing to the aid of labour, retain generally the rude implements and practices of the primitive ages. And in Europe, enlightened Europe, the agriculture of many districts has been but very little improved for centuries. In Spain, some of the states of Italy, Russia, Sweden, &c. the condition of husbandry, and of husbandmen, is deplorably wretched. And it is not long since I read of the plough having been introduced, for the first time, into one of the secluded districts of Ireland.—It is intelligence;—it is intercourse,—and above all, it is societies formed for reciprocating and diffusing agricultural information, which have made the earth to teem with new riches.—which have imparted energy to the mind, and efficiency to the arm, of the agriculturist, wherever improvement has advanced; and which, with the improvement of the soil, have raised the husbandman to his proper rank, in the moral and political scale of society. To illustrate my position I need but point to the example of Scotland. From being one of the most unproductive, she has become through her societies, her publications, and the enterprise of a few patriotic men, rich in the varied products of her agriculture. These products, principally by such means, have been increased sevenfold, if not tenfold, within the last fifty years. The improvement of intellect has kept pace, as a consequence, with the improvement of husbandry, as is evinced by the talents, the probity and industry of her sons.

2. An association of the kind contemplated might become useful, by establishing and regulating periodical fairs, for the purchase and sale of live stock, farming implements, grains and other seeds. The partial trials which have been made in the environs of our great towns, of appointing particular days for the sale and purchase of cattle, sheep and swine, not only for the shambles, but as farm stock, as well as the long established utility of fairs in Great Britain, and elsewhere, afford the strongest reason to believe, that they would prove highly beneficial; and contribute more readily than any other means, to disseminate the best breeds of animals, the most improved implements, and the choicest varieties of seeds. Products of the farm, like every other commodity, are to be judged of relatively; and it is impossible to say what is best, until it has been compared with other products of its kind. The more numerous the subjects of competition, the greater the value of that which is found to excel. A farmer may for years entertain an honest belief, that his stock, and his grain, and his implements, are superior to all others; and yet he might become satisfied, from the exhibitions at a fair that he had labored under a sad mistake, and that what he had so long considered first, were really of inferior grade. So in regard to the kinds and profits of his crops, and the manner of managing them. I have seen this remark often verified in regard to fruit. Every one graduates his ideas of the best, from what he has individually witnessed. Individuals have often expressed their surprise at the excellence of a bergamot or vergalouse pear, or of a green or other gage plum, which they have the first time seen or tasted; and when they were told that pears of equal excellence might be raised by every farmer, and so ripening in succession as to be brought upon his table almost every day in the year, the declaration has probably been doubted, though literally true. By congregating the buyers and sellers at a point, a salutary rivalship would be produced, fair dealing promoted, something like a regular scale of prices established, and the husbandman be sure of a ready sale and fair reward for his labor. The lean stock of Great Britain, as well as that which has been fitted for the butcher, is principally sold at their established fairs, which it is conceded afford great advantages to both buyer and seller.

3. Such a society might derive much benefit to the members, and very much subserve the interests of the state at large, (and I think an article of the association should exact the performance,) if its members would attentively note down whatever may occur in their practice calculated to enlarge the sphere of useful knowledge, whether the result be propitious to their expectations or not, and communicate these data to some central point, under the authority of his name, where they should be collated, arranged and published, in such form and manner, as should be deemed advisable, Such a body of facts deduced from the practice of our most intelligent farmers, and sold so as merely to cover the expense of publication, would be invaluable. Besides, new products are continually coming into culture among us. The culture of cotton, which now constitutes an article of greater value than any other of our exports, is of but recent origin in the south. The production of silk, and the manufacture of wine from our indigenous grapes, promise to become great branches of national industry, and sources of individual wealth. The dissemination of correct practical information upon these subjects might be greatly facilitated. The progress of our manufactures is also suggesting new objects of culture, and new stimuli to agricultural enterprise. Madder, woad and weld are articles of prime necessity in the dying and colouring of our cotton and woollen goods; and they are all susceptible of being profitably produced from our soil. The demand for them is already extensive, and must increase for years to come. The value of the madder alone, imported last year, I have been credibly informed, exceeds one million of dollars. This would add no contemptible item to our agricultural products. How important is it then, that we should be in the early possession of all the information necessary to its culture and management, and to enable us to form an estimate of the product and profit of the crop. Our forests, too, are rapidly giving way to increase of population. In many districts, destitute of stone, resort must ere long be had to substitutes for dead fences. We have much to learn, and much more to practice, in regard to the nature, application and economy of manures, in the business of draining, and in other important branches of labour, essential to neat and profitable husbandry. Nor is a knowledge of the fruits and vegetables which are daily brought to our tables, and which make up a large portion of our food, and of improved modes of culture, of trivial account. The condition of our gardens has not only a great bearing upon our health and comfort, but is no bad indication of our intellectual taste and refinement. Upon all these subjects of labour and taste, the result of the observations and experience of the members could not fail to be of great public benefit.

I have thus endeavoured to point out some of the benefits which *might* accroe from the labours of a state society, devoted to the improvement of Agriculture and Horticulture. Whether these benefits *will* ensue, I pretend not to judge. It will depend much upon the liberality and public spirit of those who engage in it. And it ought to be premised, that no one should become a member from an idea of mercenary gain: for I suspect there will be neither premiums, salaries nor stock to speculate upon.—The only reward expected must be the new facilities to useful knowledge which it promises, connected with a consciousness (one of the noblest feelings that dignifies our nature) of labouring to advance the happiness of man. And I ardently hope, that enough may be found, upon these terms, to organize the association at the time and place designated. B.

(From the Southern Agriculturist.)

On the Culture of the Sweet Potatoe, in reply to Q in a Corner.

Richmond county, (*Geo.*) *October* 15*th*, 1831.

Dear Sir,—Q's inquiries are commendable, as I apprehend nothing we grow is more valuable than the different varieties of the sweet potatoe. The method of planting is to lay beds off, with a plough, three and a half feet apart, proportioned to the depth of the soil; the richer the better. Should the soil be poor and thin, take stable, cow, or hog manure and put it freely over the centre of the beds, and on this the roots should be laid. The longer ones may be broken and set at twelve or fifteen inches through the row. The hoes follow and cover them over one and half inches deep, bringing the dirt from the extreme edges of the ridge. Before the vines spread to much extent, let them be ploughed as close as convenient at least twice, and the hoes follow and remove all the grass and weeds that may be rising. The numerous roots of crab-grass taking hold and spreading round the potatoes, is the most injurious to the rising crop. If, in April, you have half or two-thirds of the plat set with plantings, the succeeding sprouts and vines will be sufficient to finish it; and as soon as they get an inch or two long, and before the sun obtains his highest power, set them in the unplanted ridges at the same distances as the mother roots were, so deep as to leave the bud uncovered. The earlier this is done the better, for if it is put off until July, dry weather and the heat of the sun may stint them or wither them to death. The roots will soon send out a new set of shoots, and presently they will begin to run finely, and the hoes should now go over the ground again removing all noxious growth, making an additional elevation on the centre of the ridge directly over the potatoes. I have had them covered so much at this stage, as to seem as though they never could surmount the heavy burthen; but after the first rain or two, they spring forward with increased vegetation, covering the ridge, water-furrow, and all with a canopy of the thickest foilage. They should not after this be stirred with hoe or plough, if the weeds occasionally rise let them be pulled up by the hands. About the last of October, beef-cattle or sheep may be turned in, for the leaves are excellent pasturage. When eaten down before frost, let the plough tear off the remaining vines and fully open the ridges, and the hands follow and gather the roots, separating the small ones for the succeeding crop. The large ones should be well sunned for five or six days, then carried in baskets to be deposited in a pile of twenty or twenty-five bushels, and covered very thin with pine bark, with straw or shucks; defending the potatoes from the friction. There should be a large opening at the top for the discharge of vapour or sweat from the accumulated heap. Much attention and care should at this stage be used, as excessive heat from fermentation will cause the dry rot in the centre and spread to the circumference. Last year six-eighths of my crop were lost in this way; therefore, every circumstance of air and coolness should be administered to prevent it, by opening air holes on the centre and bottom of the pile. But as the frost increases, dirt must be thrown on, all the lower air holes stopped, and a shelter of boards placed over them to defend them from the rains. They are alike destroyed by excessive cold as well as heat, and I have been more fortunate in growing than preserving them well. If they are housed it should be large and airy, constructed so as to admit free circulation of air in warm weather, and capable of warmth and tightness in cold.

The yam variety, from its superior size, smooth and tender skin and large product, has a preference here. By cutting the root through and laying the flat surface in hot, dry, rich soil, it will soon shoot out vines enough from a single bushel to plant an acre. A practical planter told me in this way he had measured five hundred bushels from a single acre. The planting and cultivating is not more laborious than cotton, the difficulty lies in their preservation. They over-yield the yankee potatoe and are more nourishing by half. I believe all roots and grains for draught, as well as fattening animals, derive a great advantage by being steamed or boiled. In making the heap, let a stake be put in the ground, in its centre, and remove it when the heap is finished, to make more free vent to vapour off the heat.

A Subscriber of Georgia.

HORTICULTURE.

(From the Southern Agriculturist.)

ON THE CULTURE OF THE VINE.

BY DR. JAMES DAVIS.

Columbia, S. C. August 28th, 1831.

Mr. Editor,—I am sanguine in the belief that the cultivation of the vine and the making of wine is to become an important branch of business in this country: I therefore think that every hint that may tend to promote its successful cultivation ought to be communicated to the public.

There are, perhaps, more vines cultivated in the vicinity of this place, than in any other equal space in the state; and the cultivation is gradually extending, notwithstanding the difficulties and discouragements that have hitherto attended it. The great discouragement to the extension of this culture lies in the inveterate liability and tendency of the grapes to rot. This occurs during the first rainy season that annually succeeds to our accustomed spring-droughts; by which, as if by an epidemical disease, whole crops are nearly or entirely destroyed in the space of a few days. There are, in fact, no discouragements to the cultivation of the vine itself; on the contrary, it is not probable that it grows and flourishes more vigorously in any region in Europe than it does here, nor is it probable that it bears more abundantly of grapes. If, therefore, the disaster of rotting could be obviated or prevented, there could remain no question, but that the cultivation of the vine would be rapidly and widely extended. As to the blight from frost in the spring, which occasionally occurs, we find from experience that they give rise to no very serious discouragement; and especially when the vines are planted on elevated grounds For, although the early shoots may be cut off, yet we find such is the vigour of the vine, that it quickly sends forth a new growth which not unfrequently bears a good crop. The rotting of the grapes, in fact, seems to be almost the only difficulty in our way; and this, I cannot but flatter myself, can and will be surmounted. It may perhaps be surmounted by the introduction of some species of grapes that will not be liable to this disaster; or it may, and most probably can be overcome by some new methods of culture and training We learn from the whole history of the vine that it is singularly delicate, and liable to extraordinary differences from slight and often imperceptible causes; the slightest differences of climate or soil often entirely changing the qualities of the fruit. Since then, we know that it is so delicate in its fructification, as to the quality of the grape, may we not reasonably cherish the hope that the introduction of some, even slight, circumstances in the management of the culture may enable us to get rid of the disaster of their rotting. If this could be effected there can be but one opinion as to the lucrative nature of the business. That point has been long since settled by Mr. N. Herbemont. The wines he has been making for the last ten years, have been over and over again pronounced by competent judges, to be good wines: and although they are not equal to the finest, yet they are superior, and would command a higher price in the market than thousands and tens of thousands of gallons that are annually imported. If, therefore, all the grapes borne by the vines could be brought in a sound state to the vine press, it could not fail to be a profitable business. So great is the product, that Mr. Herbemont has made upwards of twenty-five gallons of wine from one vine twenty years old.

The great desideratum then is to obviate the liability of the grapes to rot; and the hint I sat down to communicate is on that subject. I have but few vines, and of these, some are twenty years old, and some about ten. Until three years ago, they had always been trained upon trellisses about five or six feet from the ground, and pruned every spring in the usual manner, leaving three buds on the new wood. They bore abundantly of grapes, but they uniformly rotted in such a manner that we seldom got twenty clusters of grapes brought to perfection. Three years ago I elevated one of the younger vines (which had never yielded a ripe cluster) upon an arbor for a garden shade. To our astonishment it bore a full crop of very perfect grapes the first year, and has continued to do so ever since, whilst all my other vines rotted as usual. I was struck with this fact, and the next spring I elevated some others; and we were gratified with a similar result, whilst the vines not yet elevated continued to rot: and even the Gigans, one of those most liable to rot, came to full perfection. Last spring I elevated all of my vines, and now, notwithstanding the excessively wet season we have had, I have a full and abundant crop in great perfection from every vine; whilst the rot has been unusually destructive all around. I have elevated my vines on arbors about twelve feet high and twelve feet wide—taking care, after pruning in the usual manner, to spread the branches over the arbors at regular distances apart, and to tie them down to their respective places. I cultivate the Yucha grass as a convenient substance to tie with: but a slight tie with almost any thing will answer the purpose, and especially if they be trained to the eastward, so as to screen their tender branches from the straining and ruffling of the (March) western winds. I am very careful, and consider it very essential, that no shoots or sprouts be permitted to grow upon the vine stalks below the eaves of the arbors, so as to allow of a free ventilation under them. I have been successful, and particularly, as I have remarked, that those of my neighbours, who have most nearly approximated my success, have also most nearly approximated my plan of training, that I am led to attach importance to *elevated training on dry and unshaded arbors*. I only, however, offer it as a hint. It will require much longer time and much more experience to settle the fact; but in our country where timber is so very abundant, it will be very easy for every one who has a vine to make the experiment. I could offer some speculations on what I conceive the advantages of this mode of training to depend, independently of the ventilation afforded by it, but my intention in making the communication is simply to state a fact.

Should this mode of training be found to secure the grapes from rotting, it will doubtless be universally adopted. It is attended, it is true, with some inconveniences: but it will commend itself on the score of much greater advantages, independently of the security from rot.

So far as my experience has gone, the vine is brought to yield incomparably more grapes than by any other mode of training. I also find by this high training, that the ground so far from being lost, produces better cabbages and cucumbers under the shades of the arbors than elsewhere; and the grapes do not appear to be at all injured or impaired by them. Another advantage in this mode of training; and especially for a vineyard for wine making is, that the vines are of a convenient height and width for driving a wagon and team under them whilst the gatherers standing on the wagon may gather the grapes and deposit them at their feet with great despatch. Another advantage is, that standing so high they are beyond the reach of pilferers, who must carry their ladder to enable them to commit their depredations. And last, though not least, the above plan gives to the crop a pleasantness to the eye, that no other plan does. The clusters hanging underneath the shady leaves, and presenting themselves in full view to the eye from the earliest germination to the mature cluster, renders it a most beautiful kind of crop.

Very respectfully, dear Sir, your most obd't serv't.

James Davis.

P. S. I planted the Bengal Indigo Seed which you were so good as to give me; but because either the drought in the spring, or because the seed had received some damage from the long voyage, they came up badly. What did come up has flourished very well; and I find it is a very different variety from either of the two kinds formerly planted in this state. I shall be very careful of the seed, and hope to give you an article on it next year.

(From the Southern Agriculturist.)

On the Tamarix Gallica, employed as a Hedge.

BY WILLIAM HALL, M. D.

The progression of a young country, from the undisturbed solitudes of its forest—its depthless swamps, to a state of advancement, in which the art of man is seen to triumph over the rude materials of the vegetable world, and thus to bend nature to intellect, is interesting as a subject of exultation to philanthropy. But it is the purpose of this article not to indulge in speculations, however alluring from their connexion with the welfare and moral happiness of man. To invite the earnest attention of agriculturists to the consideration of a simple fact, or the trial of a single experiment, whence the least benefit is likely to result, in rendering our pursuits in life more successful, is a matter of greater importance than the uncertain and visionary conclusions of the countless theories of the day. The unexampled resources of our own state, the absence of those energies which render England a scene of beauty in her landscape, and productiveness in her agriculture, must for sometime to come, continue to retard the better destinies of our country. With reckless speed the axe prostrates the forests, and we seldom entertain a thought of the future, when timber will have become scanty, and recourse be constrained to the culture of forest as well as field. If then, any expedient is likely to arrest the desolation of the axe, it must unquestionably be found in a greater attention than hitherto to the raising of hedges. It would be here entirely superfluous, because self-evident, to say any thing in favour of the time saved to the planter, whose industry has secured to himself an excellent fence, and one beautiful to the eye of taste. The success attending the culture of the Cherokee Rose or Nondescript, will be sufficient, I trust, to warrant further experiments of other plants calculated for live hedges. Hedges of this description, it is well known. constitute the principal fences of England; for which no shrub of the vegetable world seems better adapted than the *Tamarix Gallica.* Of this plant, Linnæus enumerates several species, viz. *Tamarix Germanica,* which is rather a shrub than a tree; a native of the swamps in Germany, Siberia, and Switzerland. *Tamarix articulata* or jointed branched Tamarisk. *Tamarix Epacroides,* &c.

The Tamarix Gallica grows in Carolina with the vigour and luxuriance of an indigenous plant. It is met with in the South of France from fourteen to sixteen feet in height. In our latitude it becomes not only a loftier tree, but attains to greater bulk in the trunk and branches. It is remarkable for its drooping and graceful foilage. The leaves are minute, smooth and deciduous. It flowers in July and presents to the eye long cylindrical clusters. The corolla and stamens are white or rose coloured. It attracts myriads of bees—is easily propagated by cuttings, and it has been to me a matter of some surprise, that recourse has not been had to it for the purpose of a quick set hedge. The cuttings used, are to be taken from the branches of the last summer's growth. I have found them to succeed best when selected of the size of a moderately stout stick and three feet in length. The cuttings to be laid in a straight trench at the distance of two and a half feet from each other and buried obliquely half their length. The months of January and February are the most seasonable for planting them. In the course of two years, an excellent and imperviable living fence is obtained. The facility with which it is raised in the lower sections of Carolina, must render it of inestimable value to the rice planter. It delights in our atmosphere, teeming with saline exhalation. Its leaves are found early in the morning weighed down under masses of dew of a strong briny taste, and presenting a beautiful hoary appearance. The cuttings laid in a trench extended along a raised bank (such as usually encloses land reclaimed from the marsh) would soon exhibit a dense and impenetrable thicket. It here vegetates with peculiar facility, and revels in a soil most congenial to its nature. When it has reached the height of four feet, it should be carefully plashed by nicking or cutting half through the different branches on their upper sides. They are thus made with a very little pressure, to fall in any requisite position. The smaller lateral twigs may be so plashed as to close all the lower vacancies and thicken every part regularly through. The Tamarix requires regular pruning once a year. It is easily confined to any defined height by the use of the saw, the labour necessary to accomplish this object being inconsiderable. It may not be improper here to mention, that the fibres of the roots become in time so intimately and minutely blended with the soil, as to constitute no trifling addition to the strength and durableness of the bank. The tides frequently overflow it without the least injury to the vegetable health of the hedge or detaching from the roots, the soil which inundations would otherwise sweep away.

The preceding observations derive much strength from what is known of the Tamarix in other climates. European writers inform us that it is found on the exposed coasts of England, especially towards the sea; in the north of Africa along the Mediterranean; and in most situations on the shores of Greece. It is supposed to have been introduced by monks from the coast of Normandy into Cornwall, and thence its cultivation was extended to other parts of England. I have thus endeavoured to render worthy of notice, a brief sketch of the natural character and cultivation of the Tamarix Gallica, with a view to its employment as a hedge; my experience of its advantage has not exceeded the success of an experiment confined to a small extent of land, but sufficient reliance may be placed on the conclusions it teaches, to invite the exertions of the agriculturist on a scale more commensurate with the utility it promises to secure him.

(From the Southern Agriculturist.)

ON THE CULTURE OF ASPARAGUS.

Sir,—I observe in Number 2, of 1830, of the *Southern Agriculturist.* that invaluable garden plant asparagus, taken notice of by J. Willis, Esq.—that gentleman not being perfectly acquainted with the manner in which asparagus ought to be planted and attended, I have taken the liberty to lay before you the most approved plan of planting and attending asparagus beds, with a certainty of the greatest success —if you think that the hints I have here laid down, may be anywise serviceable; you can use them for that purpose.

New plantations of asparagus can be made any time in the month of February. In making plantations of these plants, one great practice to be observed is, to make choice of a proper soil, the best the garden affords, it must not be wet, nor too dry or stubborn, but such as is moderately light and pliable, so as it will readily fall to pieces in digging and raking, and in a situation that enjoys the full sun. The ground should be regularly trenched, and a large quantity of good rotten dung be regularly and equally buried in each trench, at least twelve or fifteen inches below the surface of the dug ground. The ground being trenched and laid level, divide it into beds four feet and a half wide, with alleys two feet wide between bed and bed. Four rows of asparagus roots are to be planted in each bed, and twelve inches distance to be allowed between plant and plant in the rows, and let the outside rows of each bed be nine inches from the edge.

Let it be observed, that the plants of this plantation consist entirely of roots, no top; they must not be more than two years old from the seed, but practical gardeners prefer those plants that are only one year old, which are what I would choose to plant, as from experience I have found they generally take root much freer, and succeed every way better than two years old plants.

If you choose to raise the plants yourself, it is done by sowing the seed any time in February, in a bed of rich earth—let the bed be made five feet wide, and sow the seed broad-cast on the surface, then tread it in and cast some of the earth out of the alleys evenly over the bed or beds, and then rake them smooth. The plants will come up in three or four weeks, when they must be kept very clean from weeds and grass, by a careful hand-weeding at different times during the summer; if the weather be very dry when the plants first come up, it will be proper to refresh them now and then with water or liquid manure, which will forward them in their growth.

They will be fit to plant out for good next spring, but if you do not choose to lose a year or two in waiting for raising the plants, you may purchase them ready raised of most nursery men in the Northern States; they are commonly sold at fifty cents per hundred.

The following is the method of planting the roots: strain your line lengthways the beds, nine inches from the edge, and then, with a spade, cut out a small trench or drill close to the line, about six inches deep, making that side next to the line nearly upright, and when one trench is opened, plant before you open another, placing the plants ten or twelve inches apart in the row.

In planting these plants, observe they must not be placed flat in the bottom of the trench as by some people practised, but nearly upright against the back of the trench or drill, so that the crown of the plant may stand upright, and be two or three inches below the surface of the ground; they ought to be all placed an equal depth, spreading their roots somewhat regular against the back of the trench, and at the same time drawing a little earth up against them with the hand as you place them, so as to fix the plants in their due position till the row is planted, that when one row is thus planted, immediately with a rake draw the earth into the drill over the plants, and thus proceed to open another drill, or trench as before directed. Plant in the same manner and cover in the plants as before, and so on till the whole is planted. When they are all planted, let the surface of the beds be raked smooth, and at each corner of every bed let a firm stake be driven into the ground to serve as marks for the alleys.

The asparagus being planted, the next care is, when the plants come up, which will be about the third week in March, to keep them clean from the weeds and grass, which must be well attended to, during the summer season.

You will be pleased to observe, that it will be three years from the time of planting before the asparagus plants produce buds large enough to cut for use; although sometimes a few of the largest buds may be cut the second spring after planting, but I should advise to let it be the third year before you make a general cutting.

A plantation of asparagus, if the beds are properly dressed every year, will continue to produce good buds ten or twelve years. In making new plantations of asparagus, it is the custom of some gardeners, instead of putting in young plants, as above directed, to sow the seed at once in the beds where the plants are to remain; and it is not a bad way, for by that plan the plants are not disturbed by a removal, and consequently cannot fail of producing a regular crop, but it must be observed, that if two pieces of ground are to be laid down the same year in asparagus, and one piece be planted with young plants, the other sowed with seed, that piece which is planted, will be ready to cut a year before that which is sowed with seed.

However, to raise a plantation of asparagus at once from the seed as above, the method is this—the beds to be four and a half feet wide, and prepared as before directed for plants, mark out four lines lengthways the beds, then along these lines, at the distance of every nine or ten inches, drop in a few seeds, covering them half an inch deep; when the plants have come up for some time, they must be thinned, leaving only one of the strongest in each place, and carefully clear them from weeds and grass.

A plantation of asparagus thus raised, will produce fine buds fit to cut the fourth spring after, but will be very large and fine the fifth year. As the method of cutting asparagus may not be familiar to every one, I will here explain it. You should be provided with a straight narrow tapering knife, whose blade is about eight or nine inches long, and about an inch and a half broad at the haft, narrowing to about half an inch at the point, which should be rounded off from the back, and made somewhat blunt, and the edge should be made full of small teeth like a saw. When the buds are from three to four inches high, they should be cut, observing to slip the knife down close to each bud, and cut off slantingly about three or four inches within the ground, taking great care not to wound or break off any young buds, coming up near it from the same root, for there are always several buds in different stages of growth, advancing at the same time from the same root.

Forking and dressing the Asparagus beds.—In February, the asparagus beds ought to be forked, that is, get their spring dressings, which is done by forking or slightly digging them with a three pronged fork. For the purpose of digging or forking these beds, you should be provided with a proper fork, it should have three tines about eight or nine inches long, the tines should be perfectly flat, and about an inch broad, pretty thin, and the ends of them should be rounded and blunt. In forking the beds, be careful to loosen every part to a moderate depth, but taking great care not to go so deep as to wound the crowns of the roots. The above work of forking asparagus beds is most necessary to be done every spring, to improve and loosen the ground, and give free liberty for the buds to shoot up, also to give free access to the sun, air, and showers of rain. The beds being forked, they must afterwards be raked even, observing, that if you do not rake them immediately after they are forked, to defer it no longer than the end of the month, for by that time the buds will begin to advance towards the surface, providing the spring sets in favourably to vegetation. If they have been neglected, by omitting to keep the soil in the beds in good heart, well-rotted manure is to be evenly laid on the surface, and forked in when they get the spring dressing. In the alleys between the beds, crops of cauliflowers, brucoli, cabbages, or savoys, &c. can be planted. Negroes, in general, when allowed to manage asparagus beds, often injure them, both at dressing them, and cutting the buds; it must be observed, that the beds at dressing must be left a little rounding in the middle by taking a little of the fine pulverised earth from the alleys, and with a spade spread evenly over the beds just before raking them; also, at the time of cutting not a foot ought to be put on the beds—the alleys are intended to stand in; it must be observed also, that the beds must be kept perfectly clean from weeds and grass during the season, and at each weeding stir the ground with the fingers so as the surface may be kept free, loose, and fine to imbibe a share of the atmosphere. Yours, &c.

SOMMERVILLE.

(From the New England Farmer.)

FRUIT TREES.

Much good fruit has been introduced into this neighbourhood of late years, but the demand increases faster than the production. It is as easy to raise good fruit as bad or indifferent, and when the good is brought to market, it will bring nearly double the price of the other. The *first cost* of fruit trees is the only difference in expense, but the produce of a single season will amply remunerate this.

Some difficulty is experienced with regard to the time and mode of planting fruit trees, to obviate which we make the following extract from Mr. Prince's treatise on the management of fruit and ornamental trees, &c.

Seasons for transplanting.—Spring is the season when we find the most pleasure in making our rural improvements, and from this circumstance probably it has become the general season for planting trees, but experience has proved the fall planting to be the most successful, especially in those parts of the United States which are subjects to droughts, as the trees planted in autumn suffer little or none from a drought, when those set out in spring often perish in consequence of it.

Notwithstanding, with regard to those fruits that have been originally brought from warmer climates—such as the peach, apricot, nectarine, and almond, which are natives of Persia, Armenia, &c. it is necessary for us to consult the operations of climate also, and, from a consideration of these attendant circumstances, I have come to the following conclusions. In localities south of New York the fall season is preferable for transplanting all trees—north of New York, the fall is preferable only for the apple, pear, plum, cherry, quince, and all other trees of northern latitude; whereas the spring is to be preferred for the peach, apricot, nectarine, and almond, which for the reasons before stated, might, during severe winters, suffer from the intensity of the frosts. Still I do not mean to assert that trees of these kinds are certain to be injured by the winter, as in very many seasons they are not in the least affected; still they are exposed to vicissitudes which may or may not occur. Many gentlemen, however, of excellent judgment, make their plantations in the fall, which only serves to prove, that, even in the most intelligent minds, a diversity of opinion exists.

Trees, &c, on their arrival at the place of destination.—As soon as the trees arrive at the place where they are to be planted, let a trench be dug in cultivated ground, the bundles unpacked, and the roots well wet, and immediately covered with earth in the trench, observing to make the earth fine that is spread over them, so as not to leave vacancies for the admission of air to dry the roots; it having been found by experience that the thriftiness of trees, the first year after transplantation, depends much on the fine fibres of the roots being kept moist, and not suffered to dry from the time they are taken up until they are re planted; their increase, therefore, must depend principally on the subsequent management on their arrival at the place of destination: for, if, when the bundles are unpacked, the trees are carelessly exposed to drying winds, the young fibres of the roots must perish, and the trees, if they live at all, cannot thrive the first season, as they can receive little or no nourishment until those fibres are replaced.

Manner of planting.—Let the holes be dug somewhat larger than is sufficient to admit the roots in their natural position, and of sufficient depth to allow the tree to be placed two or three inches deeper than it was before transplanting; take care to cut off any wounded parts of the root, and to reduce the top full one third, by shortening the branches or thinning them out. Let from two to four shovelfulls of well rotted stable manure, in proportion to the size of the tree, be incorporated with the earth, and the whole made fine previous to filling it in; and, during the operation of filling in the earth, let the tree be several times shaken, in order that the soil may be admitted among the finer roots; and when completely filled in, let the ground be well trodden down, and finish by making a hollow or basin around the tree, to catch the rain and convey it to the roots, or to receive the watering which it will be necessary to give it, should the season prove dry.

To cause the trees to thrive.—The ground where they are planted must be kept cultivated; young trees will not thrive if the grass is permitted to form a sod around them, and, if it should be necessary to plant them in grass ground, care must be taken to keep the earth mellow and free from grass for three or four feet distant around them, and, every autumn, some well rotted manure should be dug in and around each tree; and every spring the bodies of the apple, pear, plum, and cherry trees, and others that it is particularly desirable to promote the growth of, should be brushed over with common soft soap, undiluted with water; this treatment will give a thriftiness to the trees surpassing the expectation of any one who has not witnessed its effect. Should the first season after transplanting prove dry, regular watering will be necessary, as, from a neglect of proper attention in this respect, many lose a large portion of their trees during a drought.

(For the American Farmer.)

GRAPE VINES—INQUIRY.

In the New England Farmer of last spring, a correspondent of that paper gives an extract from the Journal of Major *Long's* Expedition to the Rocky Mountains, descriptive of a native grape vine, which I copy: "*Many of these were so loaded with fruit as to present nothing to the eye but a series of clusters so closely arranged as to conceal every part of the stem.* The fruit of these vines is *incomparably finer* than that of any other *native* or *exotic* which we have met with in the United States."

The same correspondent adds, "In Flint's History and Geography of the Western States, a variety of species of the grape vine is described, which is called *The pine woods' grape*, and is considered to be of the same kind as that described by Major *Long*. It is thus described: '*It ripens in the month of June*, is *cone shaped*, transparent, with *four seeds*, reddish purple, is a fine fruit for eating. It has a *slender* bluish purple vine that runs on the ground among the grass.' No mention is made of the country or latitude; but in the Middle States, such a grape ripening at that time, would have an additional value from its *earliness*.

In a subsequent number of the N. E. Farmer, Col. *Robert Carr*, (Bartram's Botanic Garden) announced that he had a number of the plants growing from seeds, brought by Dr. *Thomas Say*, who was in that expedition: and that these were expected to bear fruit the last summer. Will Col. *Carr* be so kind as to inform us of the result? I should not be surprised, however, if the grape in question should prove a little deteriorated in this climate.

A.

Nothing is more important than to understand the subject about which you propose to instruct others.

Nothing is more acceptable to a hungry man than bread and meat.

Nothing is more likely to produce wealth than industry.

RURAL ECONOMY.

INSTRUCTIONS FOR FISHERMEN,

By Col. James Fenwick, late of Pomonkey, Charles County, Maryland, written in 1823, and found amongst his papers.

(Continued from page 358.)

SEINE-HAULING, RIGGING, &C.

It is another matter of material importance to a fisherman, to have his seine *hauled* and *landed* fair; that is, clear from being rolled up in the middle part, upon which he lands or grounds his fish. This is far from always being the case with me or with others, as far as my observations and inquiries have extended, and this difficulty increases with the *length* of the seine. My seines had oftener landed foully than otherwise, and it was very troublesome and difficult to save a moderate haul of fish, even after they were brought in sight, especially if there was a wave of any magnitude beating upon the shore, (it is true that a *large* haul of fish will keep fair almost the worst constructed seine,) until my inquiries for a remedy were satisfied by the instructions I received from an old and very experienced fisherman, from the Susquehanna river.—I will here detail the operation taught me for this end, and which I have ever since practised with constant success: *It is to take up or lose a greater proportion of the netting upon a portion of the lead line, than upon the same length of the cork line.* To explain this operation more completely, I will state my method of proceeding. I find the middle points of my middle or smallest mesh work, and I begin to rig thence towards the ends. I before observed that my general rule of rigging is to lose *one fourth*, but for about ten fathoms of line on each side of the middle points where I begin, I lose, on the *lead line only*, nearly *one-third*. I make two measures, one for the cork line which is to lose one-fourth, and one for the lead line which is to lose one-third, and one-quarter of the difference between the one-third and one-fourth. Example: If the measure for the cork line, which is to lose one-fourth, should be six inches long, and a measure for losing one-third should be five inches long, I make a measure five and a quarter inches long, as the measure of the lead line, and take up in each tie the same number of meshes which are taken up on the cork line: These measures I continue for about twenty fathoms, that is, ten fathoms upon each side of the middle points; I then lengthen the measure for the lead line another quarter of an inch, or another quarter of the difference between the third and fourth, and continue it for about ten fathoms more upon each side; I again lengthen it one-quarter more for the same distances, after which I make the measure for the lead line of very nearly indeed the same length as that for the cork line, and so continue out—All this is perfectly intelligible to fishermen.

I do not wish that every one should adopt exactly my rule of proceeding, but he will find his advantage in adopting some system upon this principle, taking into view all the circumstances of his own case. It results from my method of proceeding, that my netting, attached to the lead lines, loses or is taken up more than the netting attached to the cork lines by twenty feet or upwards; that is, in fact the lead line is shorter by twenty feet or upwards than the cork line. This calculation is made upon a seine of two hundred and fifty fathoms, and the fisherman must calculate accordingly for a longer or shorter seine.—It is certain that there ought not to be so great a disproportion between the two lines in a shorter seine, and in a longer one, it must be increased in proportion—my experience has been in hauling in water comparatively shallow to that of some others, which enables me to manage a seine *longer* than those who have to haul in deep water. I have found that seines from three hundred to four hundred fathom have answered purposes well and profitably at my landings, but longer ones might do as well or better and I intend to have them tried. It is further to be observed, that there need not be made so great a disproportion between the lines when old (being hauled for one or two seasons) as when new. My directions are applicable to new lines, always, however, supposed to have been well stretched. I will add, that no person need be under any apprehensions, under *any circumstances*, at a bold shortening of the lead line upon this principle, and continued to a greater or less extent; according to the length of his seine, because operation prevents the ill effect produced by the lead line acquiring additional extension by repeated hauling (the entire stress of hauling being upon the lead lines, after the ends of the seine come on shore) there being generally from six to ten hands hauling with all their strength upon each side or end of the lead line, and only a few comparatively at the cork line, whose business is rather to hold it up than to haul with any strength; when a large haul of fish is to be landed, then is the middle of the lead line strained to as much as it will take. All these circumstances will be continually stretching the lead line.

Under the old rule of rigging with equal lines when I first turned my attention to fishing, I have had a seine to haul fish tolerably fair for a few days, and then to come in rolled up, worse and worse in the middle, until it became difficult to save any fish at all; and upon cutting out and rigging over again, I always found the lead line longer than the cork line, although I had the lines well stretched at first.

I had tried the rigging of seines in every mode which I had heard of; that is, by rigging with *equal* measures throughout, losing *one-third,* losing *one-fourth*, and losing the *middle term* between those two proportions, and found in all equal liability, frequently to fail in making my seines *land fair* and smooth; but in this mode which I have stated at length, I have constantly and invariably succeeded. Hence I lay it down as a strong position, that there is a kind of necessity *to shorten the lead line* upon the principle prescribed; and hence, also, arises in my mind, a *strong objection* to rig by the general rule of losing one-third, for if one-third is lost upon the cork line, and there is a necessity to lose a still greater proportion upon a portion of the lead line, there will leave, in that part, such a superabundant fulness of gathering, such a puckering of netting as is manifestly useless, to say the least of it.

I mentioned, in describing the operation of shortening the lead line, that I began rigging from the middle. I wish it to be understood, that this is done merely for expedition upon my long seines, as I can generally procure two sets of riggers, who can by that method, both work on at once from thence to the ends; but that no inconvenience will arise from beginning at one end; (the most usual manner) provided, due caution is used in applying the shorter measures used for the lead line as equally on both sides of the middle points as can well be done. The lines should be well *untwisted*, otherwise they will be extremely troublesome when wet by their kinking. Indeed, I had been so troubled by the *kinking* of the lines, sometimes after I had taken much pains to prevent it, that I am in the habit of late years, of using none but what are called *cable-layed lines*, which I recommend as much preferable. These lines only require to be well stretched, there is no trouble about *untwisting* them. Every one ought to inform himself of the proper manner of taking new rope out of the coil, or else he may do it a great injury and give himself much trouble.

All fishermen ought to make their seines of different sized meshes, and to put the smallest size in the middle, which is *inch mesh.* Some fishermen join to each end of the inch mesh, portions of a larger size, called inch and a quarter or inch and a half, and then comes two and for the ends or wings, perhaps two and a half inch netting. I have long discarded the inch and a quarter and inch and a half sizes, as I have experienced so much trouble and loss of time in clearing out the herrings, which, in large hauls, hang themselves by the gills in almost every mesh of those sizes; add to this, that by shaking the netting violently to clear them out, their gill bones cut the twine and make those parts of a seine give way much sooner than any other. I prefer putting a small proportion more of the small sized mesh than I should do in the other case, and making the next size a small matter under two inches. Although herrings can pass through this last mesh, yet, they cannot do so easily, for the larger species of herrings some few of which are in every haul, will be hung, and herrings do not press to go through until they are brought so near as to be received by the small netting. I have frequently taken one and two hundred thousand with seines constructed chiefly to take *shad*, having only twelve or thirteen fathoms of the small work in the middle. If intended to take herrings, I would put from fifty to sixty fathoms of the small work to a seine of about two hundred and fifty fathoms in length, and in proportion for a longer or shorter seine. The size of the mesh is to be determined by the circumference of the form or gauge upon which it is netted; and the sides of the mesh from knot to knot, will be very nearly equal to half the circumference of the guage, the taking up of a small portion of the twine by the knots, making a difference, more or less, according to the thickness of the twine. The smallest sized mesh may be made very safely (so as not to hang the herrings) upon gauges of two and a quarter, two and three-tenths, two and four-tenths inches in circumference, according to the fineness or coarseness of the twine, the finest twine to suit the smallest gauge.

Some fishermen make their seines shallower upon the wings than in the middle. I cannot entertain the belief for a moment, that the small saving of twine will at all compensate for the *certain loss* of fish which must ensue from this construction, unless the seine be unnecessarily deep in the middle—my method is, to make all the different mesh works of the same depth, with the following exception only; I always tar my netting, and I find that tar shrinks the smaller meshes more in proportion to the depth, than the larger meshes. I therefore make each smaller mesh work, three, four or five inches only deeper than the larger mesh work to which it is to be joined, with a view to have them all of an equal depth, when they shall have been shrunk with the tar. All that I mean by *shrinking* from the tar, is this; when the new netting comes from the netter's hands, every one who has had to do with seines, must have observed, that the knots are not drawn up closely; (the knots having opened of themselves), now, when the netting with those open knots is put into the tar, the tar forming a coat or covering to all parts of the twine, will hinder the knots from drawing up so closely, or so small as they would have done, if there had been no tar used; so that something is lost to the depth of the netting at every knot, and consequently the more knots across the netting, the more is lost. It is only to make an allowance for this, which I have called *shrinking*, that I make the smaller mesh work a few inches deeper than the larger. The knots of new twine netting will always be open thus, before they are closed by hauling, unless the *twine has been scalded* with boiling water before it is netted, which the netters are fond of doing with some kinds of twine, as it makes the twine softer and work more pliant to their hands; but I am so strongly impressed with the opinion that *it injures twine* to give it softness and pliancy in that way, I would never suffer it to be done, whether I intended to tar or not. It is this interposition of the tar into the knots, which is one great advantage in tarring. Tar hardens twine, preserves it in some degree from being worn and weakened by friction, and certainly contributes to its longer duration, which is a great object in economy. Moisture is a ferment to twine, and tar prevents, or at least greatly retards the effect of the ferment, by which a wet seine being in a bulk is so liable to be damaged.

Many good seines have been ruined by the negligence or inattention of the managers, in letting them lie wet in a *bulk* for *only a few hours*, which would not have received the slightest injury in a much longer space of time, if they had been tarred; and it is in the knots, that the ferment always begins its action. I consider it unnecessary to describe the process of *tarring seines,* as all who are ignorant may obtain instruction from those who are in the habit of doing it. I shall only mention, that from experience, I find a small proportion of *grease* beneficial, to be *mixed with the tar*. Whilst heating it prevents the tar from becoming too stiff, and of a brittle hardness apt to scale off. My rule is to use ten or twelve pounds of lard or a gallon of train oil to a barrel of tar. The netting should be tarred two, three or four weeks before it is intended to rig it, and spread open upon railing or fencing, to give the tar time to dry, or else it will be troublesome to rig, and also very troublesome for many days in letting or laying it out of the boat, by reason of the fold or layers adhering too strongly to each other.

It will also contribute to the durability of the *hauling ropes*, if they be *tarred,* at the commencement of every fishing season, as long as they be trust worthy. I doubt whether it be worth the trouble and expense to tar a seine more than twice; that is, first, when it is new, and a second time after it has hauled one season. It is a good plan before the second tarring, to cut the small mesh work in its middle, and join together what were its ends, *to form a new middle*, as it were, and to change the selvages; because the former middle part of the small mesh work, has been more worn and weakend by so repeatedly landing fish on it, than its ends; and because the netting towards the lead line selvage has been more worn than that towards the cork line selvage.

It will add much to the strength and solidity of a seine and will save the fisherman much trouble of mending, if the netting be edged or *bordered with double twine.* This may be easily done in several ways; one is, that after the netting is otherwise completed, one or two rows of meshes of double twine may be added on each edge or selvage. It is done again by the netter *whilst weaving* the net, by a particular operation of his needle, as he arrives alternately at each selvage; which manner it would be difficult to describe, but which is more ingenious and complete than the other.

There have been introduced among us, of late years, certain machines, a kind of capstans for drawing in our hauling rope. They are of so simple construction that any common carpenter can make them after seeing the model. The first that were used were without frames. I was the first upon this river at least, who added frames to them.

This addition renders the resistance from friction much less than upon the other kind, that a larger wheel may be used with the same length of lever or cross bar. Wheels of seven feet diameter are worked with more ease by the same force and with the same length of lever, than wheels of four feet diameter without the frame; and the rate of taking in the rope is in proportion to the circumference of the wheels, provided the levers in each are equal. The advantage of these capstans in taking in the rope with so much more ease and expedition, than by hauling with the hands alone, as in the old method, is so obvious and striking, as will soon bring them into general use, and *it is to be wished that ingenious artists would apply their minds to this branch of mechanics with the view to further this improvement.*

(To be continued.)

Nothing will preserve wealth, when acquired, better than frugality and economy.

(From the New England Farmer.)

HEATING BY HOT WATER.

Brookline, Dec. 28, 1831.

Mr. Fessenden,—In your paper of November 30th, Gen. Dearborn published a letter of mine to him, on the subject of heating green houses with hot water. At that time I had not put in practice the mode I intended for warming my house; since then, however, I have been perfectly satisfied that this *mode* of heating is the best that has been hitherto applied to this purpose. My gardener had been used to flues *only*, in heating a house, and his prejudices were of course in favour of that practice. Since he has experienced the good effects of the *hot water mode* of supplying heat, he much prefers it to flues; the weather has been such as to give the experiment a fair test.

The following is his report to me in relation to his operations the last week, on 22d and 23d inst.

The fire was kindled under the boiler at 3 o'clock, P. M.; at 10 o'clock at night, the *external air* was 4° *below zero*; the water in the boiler was 204°; that in the *reservoir*, 87 *feet distant from the boiler*, was 196°; the air in the house at same time was 50°; fuel was added at that hour, and the house left, with the damper nearly closed.—At sunrise, the following morning, the external air was still at 4°, and the water in the reservoir 120°; the air in the house 42°. The weather during Friday was very severe; the mercury in the house continued to rise through the forenoon, and was at 50° when I visited it. The air is thought to be much more congenial to the growth of plants, than that from flues, and the trouble less in attending the fire. If I am correct in my calculation, the aera of the house contains 13,680 cubic feet of air, to be heated. The front wall and upright sashes are 8 feet high; the back wall 20 feet high; the length of the house 56 feet, and the pitch of the glass 34°; or about what is called *one third pitch*; width of house 20 feet. This will enable others to correct me if I have miscalculated its contents; the quantity of water to be heated in the boiler, reservoir and pipes, is about 400 gallons. When the fire has been lighted five or six hours, there is a difference of about 8° between the water in the *boiler* and that in the *reservoir*; when about ten hours, the heat of the water is about the same in the *reservoir* as in the *boiler*.

Jan. 12th, 1832. I have defered sending you the above, that I might profit by the experience of the present month—which confirms what has been stated in the preceding.

Your obedient servant,
T. H. Perkins.

MISCELLANEOUS.

(From the Genesee Farmer.)

STEALING FRUIT.

An esteemed friend presented me with *Noah Webster's* Elementary Spelling Book for examination; and among the great number of useful remarks which this indefatigable author has selected or prepared for the instruction of children, I was particularly pleased to find the following:—"*It is no more right to steal apples or water melons from another's garden or orchard than it is to steal money from his desk. Besides, it is the meanest of all low tricks to creep into a man's enclosure to take his property.*" For this service if I lived near *Noah Webster*, I would treat him to the earliest and best fruit of my garden.

Much as I am pleased with the course taken by our Legislature for suppressing the plundering of gardens and orchards, and much as might be done by editors and periodical papers, I am satisfied that to eradicate the evil, the axe ought to be laid to the root—that is, *it ought to be imperatively enjoined on all teachers who derive any part of their pay from the funds of the state, to lecture their scholars on the leading principles of morality; and as stealing fruit is the most common of all larcenies, that its enormities should be particularly pointed out.* We might then hope in a few years that the fruit in a garden, or an orchard, would be as safe as the clevis on a plough in the field, or an axe in the door-yard.

It is said that a clevis or an axe would be more easily detected; and that it is harder to resist temptation when it lends to immediate enjoyment—let it be remembered that the temptation is not greater than what is hourly presented to the youth of a city, and that a craving appetite is only one of the motives that lead to the plundering of fruit: a frolic, and the idea of doing something smart or cunning is no inconsiderable inducement with many grown boys. Let public opinion render this vice as disgraceful as the robbing of hen-roosts—which might be done by proper lectures in common schools—and one branch of iniquity would be lopped.

It is not surprising that in a new state, where all the fruits were so recently wild like the cranberry on the marsh or the hurtleberry on the hill, and free for every hand that could find them—that no proper distinction has been made between these and the fruits of the orchard or garden; and that no legislative protection, commensurate with the evil, should be immediately extended. Whenever the subject however shall demand the attention of wise statesmen, they must see that the indulgence of predatory habits, has a natural tendency to lead on to crimes of a higher order; and that he who commences with the stealing of melons and peaches, unless timely arrested, is a very fair and promising candidate for the state's prison.

In good governments, every industrious and virtuous citizen will be protected in his rights and property; and the wretch that wrongs him will be hunted and punished. How has that been with us? and how has it been with our neighbours in Ohio? The trader may hang out his merchandise at the window—the mechanic may expose his wares at the side of the street, and wo-betide him that feloniously touches them. The gardener or orchardist, however, may toil and expend his hard earnings in improvements; he may endeavor to secure the fruits of his labor behind fences and hedges; but the ravager who wrests from him the means of subsistence is only to be arraigned as a debtor! The vilest vagabond allowed to contract debts *vi et armis* at his own discretion! Such a state of things is incompatible with the existence of a virtuous population. It operates as a direct premium on vice; and those who would refine the manners of a rising people, and adorn the country with useful and elegant improvements, are discouraged. X.

APPLES OF SODOM.

Every reader has heard of the apples of Sodom, a species of fruit which, extremely beautiful to the eye is bitter to the taste and full of dust. Tacitus, in the fifth book of his history, alludes to the singular fact; but, as usual, in language so brief and ambiguous, that no light can be derived from his description, *atra et inania velut in cinerem vanescunt*. Some travellers, unable to discover this singular production, have considered it merely as a figure of speech, depicting the deceitful nature of all vicious enjoyments. Hasselquist regards it as the production of a small plant, called *Solanam melungena*, a species of night shade which is to be found abundantly in the neighborhood of Jericho. He admits that the apples are sometimes full of dust; but this, he maintains, appears only when the fruit is attacked by a certain insect, which converts the whole of the inside into a kind of powder, leaving the rind wholly entire, and in possession of its beautiful color. Mr. Seetzen, again holds the novel opinion, that this mysterious apple contains a sort of cotton resembling silk; and having no pulp or flesh in the inside, might naturally enough, when sought for as food, be denounced by the hungry Bedouin as pleasing to the eye and deceitful to the palate. Chateaubriand has fixed on a shrub different from any of the others. It grows two or three leagues from the mouth of Jordan, and is of a thorny appearance with small tapering leaves. Its fruit is exactly like that of the Egyptian lemon, both in size and color. Before it is ripe it is filled with a corrosive and saline juice, when dried, it yields a blackish seed and may be compared with ashes, and which in taste resembles bitter pepper. There can be little doubt that this is the true apple of Sodom, which flatters the sight while it mocks the appetite.—*Edinburgh Cabinet Library.*

Chester County, Pennsylvania.

In looking abroad over Chester County, we are free to declare our firm belief, that there is not, and never has been a spot on the globe, from the expulsion of Adam from Paradise, to this day, where the elements of happiness were more profusely scattered by heaven, or more judiciously combined by man. Agriculture is in a state of advancement no where surpassed. On farms of fifty acres, where the soil is good, the owners bring up a family of children and live comfortably; while plantations of one hundred acres afford, besides a good living, something to lay by towards the purchase of a new plantation; while on those of larger size the owners are accumulating wealth. In Chester county there are, we presume to say, one thousand stone houses, having, besides the ordinary conveniences of a farm-dwelling, a carpeted parlour, containing all the furniture necessary to set out a neat wedding supper. In truth we may say our citizens are prosperous. This prosperity has not been attained without intelligence and virtue, industry and care. We pretend no exemption from the passions and errors common to human nature. We do not pretend that agriculture is perfect, or education advanced to the extent that might be useful; but we do say, a more moral, kind, intelligent and happy people we have never seen or read of. We say this in no spirit of flattery. We draw no contrast. The surrounding counties are also highly prosperous, intelligent and comfortable, though none of them, in our opinion, are in advance of us. It is well, occasionally, to look at our situation, understand it, and duly to appreciate the privileges and blessings that are strewn in our paths. Pope has beautifully said

> "For God is paid, when man receives,
> To enjoy is to obey."

Our wishes are that this happiness may continue, that the generation coming up may tread in the steps of their fathers, cultivating virtue, industry and economy, keeping a strict watch over all their passions. The passions are excellent servants, but most despotic masters. We hope a thousand years hence —"He is a Chester County farmer," may convey the idea—that is an intelligent man—a good liver, has a big stone barn full of hay and grain, a pleasant wife, who, while he superintends and aids his harvesters, she superintends and aids her girls in the dairy, he drives a fine pair of horses—allows no industrious body near him to suffer from hunger and cold, and can lend you a hundred pounds on good security almost any day, from the 1st of March to the 1st of April.—*Village Record.*

FISH PONDS.

In some part of Europe, fish ponds are very valuable property. They might become so in this country. if properly stocked and attended. Particularly might this branch of business prove valuable in the neighbourhood of our large cities. A late English paper mentions that in some of the ponds in Hampshire, five acres of water support 1250 brace of Carp and Tench, until the stock are fit for market, and have obtained an average size of 2 lbs. per brace, and consequently weigh 2500 lbs. at nine pence per pound, the price at which they are usually sold to the London fishmongers, will amount to 93l. 15s. the value of five acres of land so employed for 3 years.

THE FARMER.

BALTIMORE, FRIDAY, JAN. 27, 1832.

GENERAL AGRICULTURAL AND HORTICULTURAL ESTABLISHMENT.

Comprising,—A Seed and Implement Store; a General Agricultural Agency, and the Office of the American Farmer, in the basement of Barnum's City Hotel, Baltimore;

In Connexion with a Stock and Experimental Farm and Garden in the Vicinity.

I. IRVINE HITCHCOCK & GIDEON B. SMITH have commenced the above named establishment, and solicit the patronage of farmers, gardeners, nurserymen and the public generally, for its support. They believe they can make it highly useful to the public, and, thereby, profitable to themselves—UTILITY being its only object and recommendation.

A FARM of ample dimensions has been procured, and G. B. S. will, in connexion with his editorial duties, devote a part of his attention to its cultivation. Among the objects of this branch of the establishment is the production of garden seeds of choice kinds and genuine quality for the supply of the SEED STORE. Every kind shall be cultivated that can be produced here in perfection. and the few kinds that cannot, shall be imported from European seeds-men of established reputation, so that the most *implicit reliance* may be placed upon the genuineness and freshness of all seeds, bearing the label of this establishment.

Field seeds, Agricultural Implements and Machines, Cattle of improved breeds, and other farm stock of choice kinds, Agricultural and Horticultural Books and Periodicals, Fruit and Ornamental Trees, Shrubs, Plants, &c. shall either be kept on hand or procured to order. For this latter purpose is continued (for it has been some time established) a GENERAL AGENCY for the procurement of all articles, and the transaction of all business appertaining to the establishment or its objects. All orders shall be executed with promptness and fidelity, at the same rates of commission as heretofore.

For further particulars, reference is made to the AMERICAN FARMER, where the advertisements of the establishment will from time to time indicate its supplies.

To ensure prompt attention, it is advisable that all letters on the business of the American Farmer, the Seed Store and Agency, be directed to I. I. Hitchcock. The necessary absence of the editor from the office, part of the time, in attending to the duties of the farm, makes this direction of letters and communications, particularly necessary to their prompt attention. The editor, however, will not deny himself the pleasure of direct correspondence with his agricultural and horticultural friends, and hopes for its continuance. It is only in *business correspondence*, and for the sake of despatch, that the above request is made. This new arrangement it must be understood, will make no difference in the transaction of business, as all branches of the establishment will receive the personal attention of the publisher of the Farmer and the editor, as heretofore.

Prices Current in New York, Jan. 21.

Beeswax, yellow 18 a 20. *Cotton*, New Orleans .10 a .11¼; Upland, .7 a .10; Alabama, .7½ a 10½. *Cotton Bagging*, Hemp, yd. 14½ a 17; Flax 13 a 14½; *Flax*, American, 7 a 8.——*Flaxseed*, 7 bush. clean .16 — a —— *Flour*, N. York, bbl. 6.12 a ——; Canal, 6.50 a 6.75; Balt. Hwd.st. 6.50 a 6.62; Rh'd. city mills 6.50 a 6.62; country, 6.00 a 6.12; Alexand'a, 6.25 a 6.50; Fredericksburg 6.00 a ——; Petersg. 6 00 a ——; Rye Flour, 4.62 a 4.68; Indian Meal, per bbl. 3.37 a 3.50; per hhd. 16.25 a 16.50; *Grain*, Wheat, North, —— a ——; Vir. 1.16 a 1.19; Rye, North, — a 90; Corn, Yel. Nor. 66 a —; Barley, —— a ——; Oats, Sth. and North, .38 a 46; Peas, white, dry, 7 bu. 5. Beans, 7 bu. 7.00 a 8.00; *Provisions*, Beef, mess 9.00 a 9.25; prime 5.50 a 6.25; cargo —— a ——; Lard, 10½ a .11; Pork, mess, bbl. 13.50 a 14.00; prime 11.50 a 11.75.

FRESH GARDEN SEEDS.

J. S. EASTMAN, No. 36 west Pratt street, between Hanover and Charles street, has in store, a pretty general assortment of fresh Garden Seeds of European and American growth, and is daily in expectation of a further supply from Europe, when his assortment will be complete, and which he will be enabled to recommend to his customers with confidence, as no pains has been spared in procuring them from Seedsmen of high standing.

His assortment embraces a great variety of Cabbages, Radishes, Brocolis, Borecoles,, the best kinds of Lettuces, early and late Cauliflower, Beets, Long Orange and Horn Carrots, a great variety of Peas and Beans, Mangle Wurtzel, Ruta Baga, Turnips, long green, early frame and cluster Cucumbers, with other varieties of Garden Seeds, all of which he will sell, wholesale and retail, on reasonable terms.

Also, Canary Seed, Clover, Timothy, Herds and Meadow Oat Grass Seeds; together with his usual assortment of Ploughs and other Agricultural Implements suited to the season.

Also, wove Wire for Wheat Fans, Safes, and Flax Seed Screens, &c. &c.

Jan. 25, 1832.

GRAPE CUTTINGS, &c.

WILLIAM PRINCE & SONS, near New York, offer for sale the following: 30,000 cuttings of the Isabella, Alexander or Schuylkill Muscadel, Catawba, Winne, Herbemont's Madeira, Bland, Elsingburg, Elkton, Worthington, White Fox, Lufborough, Long's Arkansas, Missouri, Muncy, Norton's Virginia Seedling, Scuppernong, York Madeira, and other native and foreign grapevines at reasonable rates.

Scions of Fruit Trees for ingrafting which can now be sent with safety to any part of the Union, will be supplied of all the various kinds.

Above 150 varieties of Double Dahlias, including the New Anemone flowered, and dwarf varieties, and also several White flowering varieties.

500 New Chinese Mulberry or Morus Multicaulis, so superior for silk worms.

500 lbs. of seed of the Yellow Locust tree, of the Long Island variety, so noted for ship timber.

The following seeds are daily expected from Europe, and will be supplied at low prices.

1,000 lbs. Luzerne.
300 lbs. French Sugar Beet.
800 lbs. Mangel Wurzel
500 lbs. Scotch White Cloverseed, and various other agricultural seeds.

Orders for these articles, or for Fruit Trees, Flowering Shrubs, and Plants, Green House Trees and Plants, Bulbous Flower Roots, &c. will receive the utmost attention. Orders can be sent per mail, and catalogues will be sent to all those who desire them.

GIDEON B. SMITH,
Jan. 13—3t. Agent, Baltimore.

RAPE SEED.

A small quantity of fresh Rape seed just received, for sale by the subscriber.

BULBOUS FLOWER ROOTS.

The subscriber has for sale a small but elegant assortment of Tulips, early double and single Van Thol, and common kinds; Crown Imperials and Persian Fritillaries; Polyanthus narcissus, yellow and white fragrant; Yellow fragrant and White fragrant; Double and single fragrant Jonquils, &c.

A few of his splendid collection of new Pæonies and Hemerocalises yet on hand.

BUFFALOE BERRY TREES.

The subscriber will receive in a few days a few of the new and beautiful fruit trees originally from the Rocky Mountains, mentioned in No. 5, vol. 13, Amr. Farmer, called *Buffaloe berry tree*, or Shepherdia. This is one of the most beautiful of all ornamental trees, bears delicious fruit, and is perfectly hardy—*price* $1 *each.*

GIDEON B. SMITH.

BALTIMORE PRICES CURRENT.

BALTIMORE MARKET.—There is very little variation in the prices of produce. Flour has declined a little, the wagon price of Howard street being $5.25; sales from stores are very limited. Wheat remains about the same as last week. Corn and rye have declined in consequence of the abundant supply.

TOBACCO.--Seconds, as in quality. 3.00 a 5.00; do. ground leaf, 5.00 a 9.00.—-Crop, common, 3.00 a 5.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 10 00; yellow and red, 8.00 a 14.00; yellow, 14 00 a 16.00.—Fine yellow, 16.00 a 20.00.--Virginia, 4.00 a——.—Rappahannock, 3.00 a 4.00——Kentucky, 3.50 a 8.00. The inspections of the week comprise — hhd. Md.; 9 hhds Ohio—total 9 hhds.

FLOUR—best white wheat family, $6.75 *a* 7.25; super Howard-st. fresh 5.37½ *a* 5.50; city mills, $5.37½ *a* —— *a* ——; Susq.— *a* —; CORN MEAL bbl 3 50; GRAIN, Md. red wheat, 1.00 *a* 1.09; white do —— *a* ——, Susq. — *a* —CORN, white, 50 *a* 52—yellow 51 *a* 53—RYE, 75 *a* 77 —OATS, 38 *a* 40.—BEANS, 75 *a* 80—PEAS, 65 *a* 70— CLOVER-SEED 5.50 *a* 6.00—TIMOTHY, 2.50 *a* —— ORCHARD GRASS —— *a* ——-Tall Meadow Oat Grass 2.00 *a* 2.50---Herd's, 75 *a* 1.00--Lucerne — *a* 37½ lb.— BARLEY,—FLAXSEED 1½ *a* 1 5-8-COTTON, Va. 7½ *a* 9-Lou. 9 *a* 12—Alab. 8*a*. 10—Tenn. 7½ *a*. 9; N. Car. 8 *a* .9½- Upland 8 *a* 10---WHISKEY, hhds. 1st p. 32 *a* —; in bbls. 33 *a* 34-——WOOL, *Washed*, Prime or Saxony Fleece 49 *a* 57; American Full Blood, 47 *a* 55; three quarters do. 41 *a* 47; half do. 35 *a* 41; quarter and common do. 32 *a* 35. *Unwashed*, Prime or Saxony Fleece, 30 *a* 34; American Full Blood, 27 *a* 30; three quarters do. 25 *a* 27; half do. 22 *a* 25; quarter and common, 19 *a* 21—— HEMP, Russia, ton, $225 *a* –; Country, dew-rotted, 5½ *a* 7c. lb. water-rotted, 7 *a* 9c.—Feathers, 37½ *a* 38; Plaster Paris, per ton, 4.75 *a* —, ground, 1.37½ *a*— bbl. Iron, gray pig for foundries per ton 33.00 *a* ——; high pig for forges, per ton, 28.00 *a* 30.00; bar Sus. per ton, 72.50 a 80.00.—Prime Beef on the hoof, 3.25 *a* 4.25— Oak wood, 4.00 *a* 4.50--Hickory, 5.50 *a* 6.00.

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EDITED BY GIDEON B. SMITH.

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AGRICULTURE.

Third Prize Essay, Agricultural Division.

BY GIDEON DAVIS, OF GEORGETOWN, D.C.

TILLAGE.

In order that Man *might be* blest, it was, that "Cursed is the ground for thy sake: in sorrow shalt thou eat *of* it all the days of thy life: Thorns also and thistles shall it bring forth to thee; and thou shalt eat the herb of the field. In the sweat of thy face shalt thou eat bread, till thou return unto the ground: for out of it wast thou taken: for dust thou *art*, and unto dust shalt thou return."—*Gen. iii.* 17, 18, 19.

"But Cain was a tiller of the ground."—*Gen. iv.* 2.

"He that tilleth his land shall have plenty of bread: but he that followeth after vain *persons* shall have poverty enough."—*Prov. xxviii.* 19.

Of all the Arts, the first, most noble and useful, *is that* of Tillage: In fact, it is by *tilling the ground* that all the rest is produced, *or rather*, it is by *tilling the ground* that man acquires the means of sustaining life in such abundance, as to afford time and opportunity to pursue other Arts. Hence it is, that improvements advance from stage to stage, not only to usefulness, but even to the elegancies; and *all the vain pomp and luxuries* that have crept into use, *and which* have overturned Empires, Kingdoms, and Republics.

But as the *art of tilling the ground* comes to be more perfectly understood, *or rather*, as the husbandmen turn from the custom of their fathers, and enter into the examination of the nature of things, and endeavour to know for themselves how they are, and how it is that our *great mother earth* acts in the production of an increase; and how it is, that she operates in the increase of her greatest productions; then the time will come, when, by the Art and assistance of the husbandman, she will be made to bring forth in her greatest strength. Then the smallest piece of ground will be made to produce the necessaries of life, and with the smallest portion of labour; and thereby afford the more time to improve in *useful arts*—the refinement of the mind—and advance the comfort and happiness of men and women.

Without attempting to ascertain what mode of *tilling the ground* Cain pursued, or what improvements had been made in Solomon's time; *which could only be speculation at best, therefore of no real use*, I propose pursuing the subject of *tilling the ground* as it is in our own day and generation; which I presume will be abundantly sufficient to occupy, not only all the time and skill that I can bestow on the subject, but there will be room enough *for those if there be any*, who may read this, to go on in the field of improvement for ages to come.

It is a saying, and, *I presume a just one*, that the agriculturist is *slow to learn*. The reason is obvious—for "whatsoever the son seeth the father do, that he doeth." And generally speaking, those that are brought up to *tilling the ground*, are brought up to labour and care, and by the direction of their parents. Hence it is, that the same routine is pursued with so much steadiness, and no doubt with a full belief that their own is the right way, and that any other would be wrong—and without paying any attention to location.

Husbandmen, *perhaps more than all others*, should bear in mind, *that* "circumstances alter cases"—for, it is entirely possible for ground to be so situated (or of such a nature) as to be too much subject to wet; and again, other ground too much subject to drought.—Then of course, that mode of tillage that would be best adapted to one situation, would not by any means suit the other. Hence it is, that experiments when attempted often fail; because, the mode is pursued without any attention to the difference in the situations. Therefore, an important experiment fails, and loss and disgrace being the result, ends the experiments of each experimenter who attempt an imitation without selecting a like situation, and no doubt they are many.

The Art *of* Tillage *is to assist* Nature, *and extends*, not only to an improvement in the production of the grass and flowers of the valley, the grain and fruits of the field, the vintage on the mountain side, or the growth of the cedars that crown the hills, and the mighty oaks that spread in the forests; but even a portion of the *animal kingdom*, fostered by the hand of man, fed with the fruits of his labour, and nursed with his care and attention, is made to subserve various and valuable purposes. He tames the *Lion*, the master beast. He subjects and commands the *Elephant*, equal to thirty-six times his own strength.—He makes the *Camel* kneel down to receive his load. He rides the *Horse* faster than any other animal on the face of the earth can run; and again combines the strength of *Horses* and moves the heaviest drafts. He feeds the Ox too from two to six times his natural size, and trains him to use his utmost strength at his command; and from the *Cow* he draws one of the greatest luxuries of life. The *Sheep* affords him clothing and food of the best quality. The *Hog* he loads with fat until it is unable to stand under the weight of its own carcase. The *Dog* he trains to guard his person and watch his property day and night. *Again*, he extends his *artful hand* into the flocks of the feathered tribes; and (extraordinary) besides domesticating innumerable swarms of various kinds most valuable for his purposes, he even indulges in *amusements*. He holds the *Falcon* (or hawk) in his hand, points out the feathered game which he desires, *darts his hawk*, which, with its utmost speed pursues the game intent, and to his delight brings the bird safe into his hands. *Besides that*, he puts his hands into the waters and even domesticates the *Fish*. He trains them to come and go at his command. And last of all, if not the least, he domesticates the Insect, and of some of them he obtains the sweetest morsel that was ever applied to the organ of taste.

But to the subject of Tilling *the* Ground.

The Laws (or rather fixed principles) *of* Nature *cannot be* altered, however much they may be transgressed, set at nought, disregarded, or acted in opposition to; still they remain the very same thing, right, just, *and* true *in every particular*.

This admitted, then what mode is that which will constitute the most perfect system of tilling *the* ground? *I answer:* Keep *the* soil *or vegetable mould on the* top, and work the ground deep enough to receive all the rain water that will fall on it (as near as may be) and to a certainty the ground will retain the moisture so as to dispose of it in the most perfect manner.

Now, without asking whether this subject is understood by every body, known only to a few, or not known to another individual, I shall proceed to offer such remarks as have occurred to my mind in the course of my own practice and observation. Neither shall I suppress the full expression of my views on this subject, because it happens to be at this late period in the art *of* tillage, that is, almost six thousand years since Cain commenced the operation.

Nature places the *soil* (or mould) on the top of the ground; and every reason that can be brought to bear on the subject at all, argues the correctness of the case. It is the *soil*, (or mould) that is, that portion of the upper strata of earth *which is known by the dark appearance*, which contains principally the vegetable matter, and no odds of what kind it is, it must be decomposed before it is qualified for vegetable food; and unless exposed to the influence of the atmosphere, it will not decompose at all. Hence the necessity of an attention to this very important subject.

But to a great extent, it is necessary to cultivate the ground deeper than the soil extends. *I speak of ground the sub-stratum* (or under strata) *of which is principally composed of clay*. Because in various portions of country, the land is of good quality (or rather very productive) especially for corn or wheat, where the soil does not exceed one to three or four inches in depth—then if the ground is not cultivated deeper than the soil extends, *in common seasons* it would not retain moisture enough to mature a full crop; and at the same time would be subject to wash. Because, if the ground is not tilled deep enough to absorb the rain-water that falls on it, *especially if it lies inclined*, it will then be sure to *wash*, that is, the finely pulverised ground will become saturated with water so as to be filled even to overflowing, then the *soil* which is but very little heavier (than the water any how) will run off with it, at any rate the decomposed vegetable matter will be taken up and held in solution, consequently, a portion, if not all, will be carried off with the superabundant water; and, *it is from this very circumstance*, generally speaking, that land becomes so much exhausted, and in fact worn out; and not at all on account of the cropping or yielding a regular course of vegetation, as generally supposed. But in all cases where an attempt is made to till the ground, and especially if the sub-stratum is composed of clay, so much as to render the land stiff, the tillage should be deep enough to absorb all the moisture that will be likely to fall on it; and at the same time be sure to keep the soil on the top. And for these reasons:

1st. The soil is of such a nature that it does not hold or retain moisture like unto pulverized clay; and this circumstance is deserving of particular attention: because it is the moisture which is held too near the top of the ground, that the frost operates on and causes it to freeze out in the winter time; and it is the water being held too near the top of the ground that the sun operates on in the summer time, that causes it to scald out: for instance, every body knows that where there is no soil on the top of the ground, wheat and clover, &c. will freeze (or rather draw) out in the winter time. . And again, there, it will scald in the summer time—consequently the labour of tillage is lost at any rate. But if there is only one half an inch depth of soil on the top of the ground, that little strata of soil will protect the vegetable from injury by the frost or sun; but one half an inch depth of soil would not be likely to promote a great growth, though it protected the plant. Hence this becomes a very interesting subject in tillage.

2nd. If the soil is kept on the *top of the ground* it will not bake; because the vegetable matter which is contained in that portion of the ground denominated soil, is of such a nature that it will not adhere together so as to form a crust, *that is*, the falling of the rain water on it will not beat and drive it together so as to form a crust, or rather become worked into a mortar, which it is in fact, that forms the crust, and bakes on the top of the ground; then the growth of vegetation could not be checked by the baking of the ground.—But again, *every body knows* that if the top of the ground is composed of finely pulverized clay, no matter how much soil (or manure) there is underneath, it never fails to bake, i.e. to have a crust formed on the top of it, which is an injury to the growth of vegetation, and especially when young. Hence the necessity of a special care to this matter.

3rd. *It should be a standing rule in every instance* to keep the soil on the *top of the ground* for another reason, *that is*, If the soil is kept on the top of the ground, and as completely within the influence of the atmosphere as would be best, then all the seeds of the preceding crop (or crops) of vegetation, good or bad, would be buried within the influence of the atmosphere also, and of course in a suitable situation to germinate; then the first favorable season the seeds thus enclosed would spring up and grow, when, if preferred, the growth could be preserved; but if otherwise, then at one operation, *literally speaking*, the whole may be destroyed, and thus the ground rendered clean. But if the ground is turned over to a great depth at one operation, *as is common*, and especially among the most interesting class of farmers, then the seeds of the preceding crops that were on the ground will be turned in at all depths from top to the bottom of the ploughing so much as is within the influence of the atmosphere will come up and grow; and at every operation in tillage, in the common routine, there is seed enough brought up within the influence of the atmosphere to produce another crop. Hence the land is never clean.

4th. Another reason why the SOIL should be kept on the *top of the ground,* is, that when rain falls on the SOIL it soaks through at once, and without producing any kind of a crust or coat that is disposed to be impervious to the passage of water; which, when it comes in contact with the pulverized clay beneath the SOIL is absorbed and retained in the most perfect manner. There is not another composition that can be produced, that will absorb and retain rain water longer, and in a more perfect manner, than pulverized CLAY, provided it is covered with a strata of SOIL *or any thing else,* that will take off the stroke of the falling fluid, and protect it from the rays of the sun.—Sand, straw, or leaves, &c. have the same effect, but would not promote the growth of vegetation equal to a strata of rich SOIL. But if finely pulverized *clay* is operated upon by the falling of heavy rains, it is beaten or worked into a mortar on the top, and becomes at once in a manner impenetrable to water, almost as much so as a shingled roof, consequently the water runs on the top of the ground and gathers into streams larger and larger until it either washes gullies or gets into cleaning up furrows and thus passes off without soaking the ground wet at all, save only just on the top.

5th. Another reason why the SOIL should be kept on the top of the ground is, on account of the influence that color has in the absorption and retention of caloric (or heat.) The composition of vegetable matter contained in that portion or strata of ground denominated SOIL, always acquires a dark and sometimes a black hue. The known capacity of dark colors to absorb and retain heat, and the influence that heat has on the germination and growth of vegetation, will fully establish the necessity of keeping the soil on the top of the ground in every stage in TILLAGE.

6th. There is still another reason why the SOIL should be kept on the *top of the ground.* The SOIL is the most perfect NURSE in bringing forth, sustaining and maturing every species of GRASS, GRAIN, &c.; and in tillage, the greatest care should be taken and all attention paid, that every spot of ground should be set in GRASS, and kept always, as near as may be, covered with it when not in cultivation. But it is said that *moisture attracts moisture*—and I have no doubt of the fact—and every body knows that heat repels moisture: these things admitted, naturally lead to the investigation of a subject very important and interesting. It has been said, *and by high authority too,* "That as the ground becomes stript of its FOLIAGE and exposed to the rays of the sun, it not only loses the attraction which it had for the VAPOR floating in the atmosphere, but being *exposed naked* to the rays of the sun it becomes more dry, and heated to a greater degree, so much so as to have an influence *in repelling,* not only the *vapor,* but even the clouds that float in the atmosphere. Hence it is, that as countries become opened and subjected to tillage, the seasons become more and more dry." This doctrine admitted should unite the exertions of the husbandmen, *first,* to generate a SOIL on the top of all their cleared grounds, and then to set their fields in GRASS.

Having demonstrated the utility of keeping the SOIL *on the top of the ground,* and that in every process of TILLAGE, and on all occasions, pertaining to the ART *of* HUSBANDRY, it now only remains for me to explain the MANNER, in which the ground may be TILLED to a sufficient depth, to receive all the *moisture* that will be likely to fall on it; and without turning the SOIL down, the CLAY up, or any admixture.

This subject I consider very much deserving the attention of all that portion of the agricultural community *at least,* who occupy land, the under strata of which *is* STIFF, by being partly or wholly composed of CLAY.

Then, to effect an object, *which I conceive to be of* VAST IMPORTANCE *to every individual*—because it would promote the increase of all the necessaries of life, without adding either labour or expense in the TILLAGE.

Instead of applying a strong team to a large plough, and turning the ground over to a great depth at one operation—*which is the present, or common mode of practice;* the effect of which is to turn the SOIL, *manure, &c.* down flat, or partially so, on the bottom of each preceding furrow, and the stiff CLAY or subsoil, by the reversal, being brought on the top of the SOIL, *&c.* places it in a situation where it is excluded from the influence of the atmosphere; consequently not in a situation to become qualified for the promotion of vegetation. Some say they, in cross ploughing, bring all that MOULD, &c. on the top again. This is doubted; for though in working in a stiff *sward* or sod, the SOIL, &c. may be turned down to great perfection—after having laid long enough to become mellow, then instead of bringing it up to the top again, in the attempt it is only mixed from the bottom to the top; and in a situation like that, the land of a good quality with the SOIL all on the top, being mixed, say three inches of SOIL to the depth of six to eight inches, with a *stiff subsoil,* it is easy enough to conceive, that the benefit of the SOIL is very much lost to the crop. And besides that, the seeds that were on the top of the ground, are buried at all depths, from the top to the bottom of the TILLAGE. *I can have no question,* that to every rational observer, this mode of practice, *no matter how common, or by whom,* must be considered as contrary to the nature of things, therefore incorrect.—Then, I would use a small barshare (or fallow) plough, and would endeavour, as near as I could, to turn the SOIL, *and that only,* completely over, as far as to the extent of three inches in depth, but no further—*not even if the* SOIL *was three feet deep,* so much do I conceive it necessary to guard against letting the ground become foul, by incautiously burying the seeds at various depths, that I would make this an invariable rule. *But then,* to finish the work in that *perfect style,* that is entirely practicable, I would prepare a COULTER, (or substratum plough)—the simplest, and perhaps as good as any that can be adopted, is just a common *strong* coulter fixed in a stock, and so adjusted as to take the ground freely,—and with that simple, *though indeed a very efficient* implement, I would proceed on after the barshare or *fallow* plough, and work down in the bottom of each furrow, to whatever depth I conceived necessary to answer the purpose I had in view; and thus proceeding with the operation, I would effect a complete breaking of the ground to the required depth, say six, eight, ten, or even twelve or more inches deep, and at the same time retain the SOIL, *manure, &c. with all the seeds,* within three inches of the surface. Thus far my object would be effected, in what I consider the most perfect style. Then, in the course of TILLAGE, I would, as I judged necessary, occasionally stir the ground to the full depth it was broke, merely to keep it in a situation so as to receive the rain-water that would fall on it, with the least obstruction. Otherwise, I would use that kind of implement which would work the ground sufficiently, and destroy the superfluous growth in the most perfect manner, without penetrating more than the depth of the SOIL, or three inches at most, and having this effected, *with care to plant and sow in season,* I should await the "first rain, and the latter rain," with full expectation of my due reward; i. e. receiving, according to the season, the greatest increase that such ground was able to produce.

Why are frost-bitten potatoes sweet?

Because of the spontaneous conversion of the starch they contain into sugar.

CULTIVATION OF WESTERN LANDS.

MR. SMITH: *Stockdale, Ken. 7th Jan.* 1832.

I have the satisfaction of enclosing herewith, ten dollars for my subscription to your valuable paper for the last two years; and avail myself of the occasion to submit to you, or through you to some of your competent correspondents, some inquiries in relation to the best mode of cultivating lands in the great valley of the Ohio.

It has been judiciously and repeatedly remarked in the "Farmer," that there is a fatal error in the farmers of the Southern and Western States attempting to cultivate too much land. Scarcely as much real profit is derived there from farms of six or eight hundred acres as is often realized from the one hundred acre tracts of N. England. The cause is obvious—a want of attention to the proper modes of renovating exhausted lands, as well as a general want of economy in their management. When the population here shall become as dense as it is in N. England, the necessity for this mode of treatment will be apparent. In the mean time, if we could adopt here to our farms of six hundred acres, the principles applied to the small tracts of N. England, the mania for emigration to the remote west would relatively cease, and greater stability would be given to our agriculture, to our exports, and to the general aspect of society.

That some useful hints may be drawn out of these points, I would request information in relation to the best mode of cultivating a large farm, (say from six hundred to one thousand acres,) in suitable proportions of corn, small grain, and the different grasses, for I exclude altogether the growth of tobacco as ruinous to the soil and fluctuating in its price.

In the first place, what is the best mode of preparing ground for corn; at what time ought the ground to be broken up; with what kind to be planted; at what distances, and how many stalks left in the hill if not drilled; how deep the breaking up; with what sort of plough or harrow ought it to be cultivated in its early stages; when ought the ploughing to cease; when ought it to be cut, if that process be preferred, as I think it ought; what is the best system of rotation in crops; and ought a field to be cultivated two years successively in corn, upon any principle of rotation?

In the second place, what grasses are most highly esteemed, both for renovating land, and as affording pasture or hay? It seems to be a desideratum to know what mixture of grasses give the greatest quantity of grazing, while at the same time they serve to renew the exhausted land—stable manure or marl could not be applied here upon a large scale—clover or other grasses supply their place with more convenience and economy; and it is a source of gratitude to the Author of every good gift, that this vast region of soil, having limestone under a stratum of clay, possesses a capacity to be perpetually renewed, through the cultivation of the various grasses. What is the difference in the product of grasses in woods cleaned up, (that is, the fuel alone taken out and the rail timber left,) and the product of grasses in open land; and what are the grasses best adapted to each? In fine, what is the best system of grazing lands? By the graziers on the South Branch of the Potomac an answer to these inquiries could be readily given, and probably those around Lexington, (Ky.) and in the Pickaway plains of the Scioto valley could furnish detailed information as to the whole subject. Lands there reduced to five or six barrels of corn to the acre, have been very profitably managed by rotation and in grasses to bring their original capacity of fifteen and eighteen barrels to the acre. I have supposed information on these points to be valuable, as, at no distant day, the business of this country will settle down and be based upon grain, the grasses, the raising and feeding of live stock, in connexion with hemp and its manufacture—with partial manufactures of cotton and wool. T.

AGRICULTURAL BOOKS, &c.

Lucky Hit Farm, Oct. 4, 1831,
White Post, Fred'k Cy. Va.

Mr. Smith:

In the last Farmer you say "A general assortment of Agricultural Books kept constantly for sale at this office." Cannot you favour us with a list of your books in the Farmer—it would be serving the interests of your friends very much, and I would presume that books, seeds, and implements, would be all in place connected with the Farmer. French, as well as English works, added to our own, which to be sure are of the greatest importance to our practical agriculture, would be in some demand. It has been only a day or two since, that I wished a reference to Lord Dundonnal's View of Agriculture and Chemistry connected, and knew not where to procure the work.—Although the practices of our agriculture differ so widely from those of Great Britain, still the principles of the art they have carried to so great perfection, are of no little importance to us, from the most extensive field culture to the vegetable garden. Their learned labours on the improvement of live stock, are perhaps of more immediate interest to us than any other—and perhaps some of their more philosophic, may convince our farmers of the imposibility of wheat, rye, barley, oats, grass, &c. turning to chess or cheat, in spite of their sober senses. The circumstance of fine timothy meadows turning to cheat, as it is said, which has happened in this neighbourhood, and can be attested by men of first rate character and information, on grounds which had been for years previously producing pure timothy, staggers the faith of almost the well trained naturalist—no suspicion of a cheat stem was had, until the head came out to the astonishment of all who saw it. Other testimony goes to the effect, that pure timothy took place again next year. The cheat was most luxuriant, and not a head of timothy to be seen.

We are very busy sowing our wheat on close fallows, and on grounds which have produced an abundant crop of corn. Permit me to mention to you a very simple improvement on the stake for laying off our fallows—they are eleven or twelve feet long, made of well seasoned white oak, with an iron spike at the bottom; in order to make the same set of stakes answer for lands of any dimensions, from three or six to twenty feet, there are two nibs affixed to every stake, that slide backwards and forwards, and are fastened by a slight wedge on the stake at the distance required—these nibs make it much less toilsome to the layer off, and much more accurate, as the forward nib makes an impression while the other is in the last stake hole. The precision of this mode is so readily perceived, that no further explanation will be offered. Well constructed they will last a generation, and save the ruinous practice of cutting down every spring the straight thrifty saplings from the woods.

Yours respectfully, R. K. M.

"Beat this who can."

LARGE POTATOES—GREAT CROP.

Mr. Smith: *New Castle, (Penn.) Jan. 15, 1832.*

I observed in No. 34 of the Farmer, a piece headed "beat this who can," followed by a certificate of several gentlemen of Washington, D. C. certifying that they had weighed twelve potatoes for Mr. Adam Lindsay, which weighed seventeen and a half pounds. At the time that paper arrived, I was about finishing the digging my potatoes, and had but a few rows to raise. I requested Mr. James T. Robinson, merchant of this place, to select twelve of the largest from the few rows I was then digging, and weigh them, and the return he made me was that the twelve weighed twenty-six pounds, nine ounces, which exceeds Mr. Lindsay's about fifty per cent. In the lot he weighed there was but one potatoe that we would call here, a very large potatoe, it weighed about four pounds. I believe that this section of country cannot be equalled for raising potatoes, as to quality and quantity. At our last exhibition, satisfactory proof was submitted to the directors, by Benton Rust, that he raised two hundred and thirty-eight and a half bushels of potatoes on one quarter of an acre, which is at the rate of nine hundred and fifty-four bushels per acre. Ebenezer Byers, of this vicinity, had two hundred and thirty bushels on one quarter of an acre. I presume these quantities are not often raised in your section of country.

Mr. Falls, on a piece of hill side land, raised the past season one hundred and forty-eight and three-fourth bushels of shelled corn, on one acre. This is the greatest crop on one acre that we have ever raised here, since the establishment of our society. 100, 120 and 144½ bushels per acre, have been raised by members of our agricultural society. Mr. Falls raised (the past season) seventy-two and three-fourth bushels of oats, on one acre of ground.

We have here a good country, our lands will produce fine crops, if well farmed; but we have been far from market, but hope this difficulty will soon be obviated, as there is a canal now in progress from our village to the Ohio river, which will be completed in one year, when we can send our produce to market cheap. I wish some of your Baltimore capitalists, who wish to embark in the iron business, would establish themselves in this section of country, as they would find it very profitable. We have here abundance of water power, good ore, plenty of provisions, and will soon have a cheap and easy mode of sending the iron to market. Yours, respectfully, J. W. Boyd.

HORTICULTURE.

NATIVE OAKS, &c.

Lin. Bot. Garden, near New York,
January 20, 1832.

Mr. Smith:

Agreeably to the desire of the London Horticultural Society, I last month transmitted them a collection of our native productions, comprising thirty-two varieties of apples, twelve varieties of pears, a number of varieties of plums and grapes, and six very interesting *new double varieties* of Hibiscus Syriacus or Althea frutex, having originated the latter from seed. In addition thereto, I presented them with the seeds of fifty species and varieties of the oak, eighteen species of hickory, and with several species of our most interesting pines; and as these productions indigenous to our forests, offer a proof so conclusive of the natural riches of our country, I hereto annex a list of them. The number of varieties of the oak, spread over the immense expanse of territory from Maine to Mexico, is so great, that the collection of them might have been readily extended to *one hundred varieties*, without including above twenty *evergreen* species, natives of Mexico itself. Of the latter I have three splendid species now flourishing in our garden, in which are also concentrated the Spanish oak, which yields the cork, so universally in use, as well as the other European varieties; and also a most interesting evergreen species from the East Indies, whose growth assimilates very much to that of our holly.

Respectfully, Wm. Robert Prince.

1	Quercus	virens,	This is the species termed *Live Oak*, and it affords the superior ship timber, deemed equal to the teak of India.
2	"	" v. diversifolia,	
3	"	tinctoria,	These species and varieties afford the finest Quercitron bark.
4	"	" v. glande oblonga,	
5	"	" v. glande oblongo striata,	
6	"	" v. intermedia oblonga,	
7	"	" v. glande ovata,	
8	"	" v. glande ovata striata,	
9	"	" v. glande depresso-globosa,	
10	"	triloba,	
11	Quercus	alba	These species afford excellent timber—also posts for fencing, &c.
12	"	" v. glande minor,	
13	"	macrocarpa,	
14	"	bicolor,	
15	"	obtusiloba,	
16	"	" v. glande minima,	
17	"	olivæformis,	
18	"	rubra,	The bark of these varieties is very extensively used in the tanneries.
19	"	" v. glande oblongo-ovata,	
20	"	" v. glande minor,	
21	"	" v. glande maxima,	
22	"	" v. glande oblonga,	
23	"	aquatica,	These are sub-evergreen often holding their foliage during the whole winter.
24	"	" v. glande minor,	
25	"	" v. heterophylla,	
26	"	palustris.	
27	"	cinerea,	This species affords a brilliant yellow dye.
28	"	" var.	
29	"	catesbæi—a beautiful evergreen.	
30	"	coccinea,	The bark of these is often used in tanneries in lieu of the true Quercitron.
31	"	" v. glande oblonga,	
32	"	" v. glande minor,	
33	"	hemisphærica.	
34	"	phellos—The wood is used by wheelwrights, and is remarkable for its strength and tenacity; the trees attain to the height of eighty feet or more.	
35	"	falcata.—The bark of this species is in high estimation for tanning and the wood is used by wheelrights.	
36	"	chinquapin.	
37	"	lyrata.—This species affords good timber.	
38	"	ambigua.—The bark is used in the tanneries, and the timber for knees of ships, and also by the wheelwrights.	
39	"	nana.	
40	"	sericea.	
41	"	myrtifolia.	
42	"	laurifolia.	
43	"	castanea.—Forms a beautiful tree.	
44	"	maritima.	
45	"	ferruginea.—Affords excellent fuel.	
46	"	banisteri.	
47	"	imbricaria,	The wood is used for shingles, &c.
48	"	v. fol serrata,	
49	"	discolor.	
50	"	" v. glande oblonga.	
51	Juglans	myristicæformis.—This species it is believed does not at present exist in the European collections; the specimens called by the name being generally the *J. porcina, var. ficiformis.*—Although I have made the most particular inquiries and research for a period of twelve years, it was not until the present one, that I succeeded in discovering its native locality, and I have been often tempted to doubt its existence.	
52	"	porcina.	
53	"	" v. ficiformis.	
54	"	" v. subovata.	
55	"	cinerea.	
56	"	alba, vel squamosa.	
57	"	sulcata.	
58	"	tomentosa.	
59	"	" v. nuce subovata.	
60	"	" v. nuce maxima globosa.	
61	"	" v. nuce maxima quadrangularis.	
62	"	" v. nuce oblonga.	
63	"	" v. nuce maxima ovata.	
64	"	" v. nuce minima.	
65	"	nigra.	
66	"	amara.	
67	"	aquatica.	

68 Juglans olivæformis.
69 Pinus pungens.—I discovered some trees of this very rare species in 1829, occupying an insulated position, the locality of which is four hundred miles north of the one recorded by Pursh and Michaux; and during the same year, I transmitted a large number of the cones to Paris and London.
70 " palustris.—The most valuable of all our native species.
71 " rubra.—Michaux, though so estimable and accurate a botanist, doubts the existence of this species, and notes it as a variety only, whereas no species is more distinctly marked.
72 " alba.—This is the most beautiful tree of all the class of Abies, and seldom to be met with even in this its native country.

RURAL ECONOMY.

(From the New England Farmer.)

DISEASE IN HORSES.

Th. G. Fessenden, Esq. *Mansfield, Jan.* 1832.

As there were many opinions respecting the late epidemic which proved so fatal to horses, I addressed a line to Dr. Peck, of Foxborough, a gentleman of sound judgment, and an accurate observer of facts, and who had lost a valuable horse by the complaint, requesting him to give me his opinion respecting the disease, and the proper treatment to be pursued, and to make such remarks as he thought proper.—The following is a copy of his answer. Should you think it will be useful to the public, you are at liberty to give it a place in that depository of useful knowledge, the New England Farmer.

Your obd't servant, R. Green.

Sir: *Foxborough, Nov.* 8, 1831.

Numerous professional duties have delayed a compliance with your request, much longer than was expected when it was received. The demands of friendship, and the benevolence of the object, forbid me to hesitate in giving you my views respecting the epidemic, which has effected so great a loss of property, inflicted so much suffering, and occasioned death in so many instances in that noble race of animals, the horse. It is not, however, without embarrassment and diffidence of opinion created by the novelty of the subject, and increased by the want of leisure, and the means to ascertain what is already made public in books on veterinary medicine.

My opinions will be founded principally upon the disease, as it occurred in the mare I lost in September last. A concise history of this case will afford you the best means of judging of their correctness, and prevent the necessity of introducing detached portions by the way of explanation.

On the 7th of September, my boy took her from the pasture a little before sunset and harnessed her in the sulkey. While standing at the door, I observed she slavered freely, and was stupid and downcast in her appearance. I discovered that she was loath to go faster than the walk, and although repeatedly urged forward by the whip, would shortly resume the walk. Once or twice on ascending a hill, she stopped for a moment, as if fatigued, or in pain, and several times in descending small pitches she appeared in great danger of falling from the very bungling manner of using her fore feet.

She had been turned to grass for a few weeks to recover from an injury of one of her limbs, and deprived of grain, to which she had long been accustomed. This change in her living and want of exercise, I thought at first, might account for her lack of spirit and activity, as well as for the awkwardness of her gait. I therefore continued my ride without discovering anything farther till the latter part of the evening, except that whenever the whip was applied, a distinct interval was obvious between the time it struck her and the time she perceived the blow. When she did perceive it, the effect was greater than was expected, for she started off as if surprise had been added to the usual effects of the lash. This singular phenomenon I observed several times in the course of the evening. I might also mention, that checking her up appeared to cause pain and very much retarded her motion. On my return home in the latter part of the evening, I experienced great difficulty in keeping her in the road, on account of an obstinate and constant tendency to the left, that required a strong effort to counteract. She could scarcely be urged out of the walk, and it was perfectly evident that she was labouring under some alarming disease.—I now made a careful examination and found the whole surface of the body cold and tremulous, countenance dull and listless, a leaning and stepping to the left, with so much appearance of general weakness, as to induce the fear that she would fall in the harness. With much ado I got home, which was then but a short distance. She however grew worse very fast, and when she arrived home, did not recognise her own stable. She was now well rubbed, and a gallon of blood taken from the neck. While this was doing, and afterwards, she often kicked violently with her left foot. About 11, P. M. I was called from home and did not return till next day about 2, P. M., when she was down and incapable of rising. She was left in the care of a farrier, who had bled her again and given her several cathartic medicines without effect. She lay stretched out upon the floor, with her head drawn back, and the muscles of the neck, abdomen, and limbs frequently convulsed. At short intervals she would revive, or attempt to get up, but could only get upon her hind feet, for her fore legs appeared to be completely paralyzed. She would however make a powerful exertion to rise forwards, and throw herself several feet ahead, without regarding anything that might be in her way. No material alteration took place till next morning, except a gradual diminution of strength and exertion. In the morning she commenced moving her legs backwards and forwards, was generally convulsed and apparently in the greatest distress. This state of things continued till 9, A. M. when she expired.

From the first appearance of illness, her fore legs were disproportionally affected. The retina retained its sensibility to the last: it did not, however, appear to communicate any impression to the brain.

Examination one hour after death.—The cavity of the chest and abdomen were opened and each viscus carefully examined: no disease was discovered except a slight inflammation of the mucous surface of the urinary bladder, which probably resulted from a retention of urine.

The vessels of the brain were remarkably turgid and between the pia mater and arachnoid membrane, numerous small collections of water were found in the depressions upon the surface of the brain. The water in the ventricles did not much exceed half a gill. The cerebellum was surrounded with water inclosed in the membranes above mentioned and the effusion was still more abundant around the medulla oblongata and medulla spinalis. The interior of both cerebrum and cerebellum appeared more vascular than I supposed to be natural. The head was separated from the trunk by a section between the second and third cervical vertebræ, and the extremity of the spine being made dependent, water to a considerable amount gradually dripped from it. The posterior half of the processus tentorie was found completely ossified. This circumstance I mention, not as having any thing to do with the disease, but as it was probably a morbid deposit; hence we learn how unimportant was this affection of the animal, which, until this illness, had been perfectly good.

The morbid appearances discovered on dissection will explain the symptoms except the inclination to the left, which might have been owing to an unequal affection of the two hemispheres of the brain. The affection of the fore legs resulted, probably from inflammation of the spine.

Such were the symptoms and such the autopsic appearances; but the more difficult and the more important of your inquiries remain to be answered. To start an hypothesis or to dictate a treatment from the observations made in a single case, would seem a most hazardous, if not presumptuous undertaking; but from what I can learn of others, there is a great uniformity of symptoms in cases that have occurred in this quarter, and as it is evidently an epidemic disease, there can be little doubt that it exhibited its peculiar attributes, more or less clearly, in all cases that occurred unmixed with other complaints. If this be so, we are warranted in drawing general conclusions respecting the nature of the disease, from the case before us, and in deducing therefrom the principal objects to be kept in view in the use of therapeutic means.

In respect to the cause, numerous opinions are in circulation. Some impute this malady to the watery quality of the grass arising from frequent rains and heavy dews; others to the great abundance of it. supplying an excess of nutriment and thence inducing an inflammatory diathesis; while others again, abscribe it to noxious plants and poisonous insects eaten by the horse. The two first of these although directly opposed to each other, may be worthy of a passing notice. That very wet and very dry seasons produce material and opposite effects upon grasses, is well known to every one. In very dry seasons, they contain much more nutritive matter, in a given quantity, than in very wet seasons.

The past season has abounded with rains and hence the quality of grass has been inferior to that of common years. I have heard many remark that horses slavered much more than common. No doubt an inferior quality of food and so copious a salivation may very much weaken the animal and prepare his system to be acted upon with greater facility by morbific agents. In order to show that it was of itself competent to produce the disease, it will be necessary in the first place to prove that the disease was co-extensive with this deterioration of the grass; but this I suspect will not be pretended. The second is less adequate than the first, unless it be supposed that the excess in quantity be more than sufficient to counterbalance the deficiency in quality. But were it even so, the effect must be limited to a general affection of the system very different from actual disease and the same objection might be brought against it as against the first. Great and sudden changes in the temperature of the atmosphere sometimes produce epidemic diseases; but this was not only somewhat out of season, but far too limited in extent to be attributed to this cause.

If malaria (miasma) be an adequate cause, and if, moreover, the symptoms and nature of the disease bear a close analogy to the known effects of malaria upon the animal system, then certainly it would be very unphilosophic to adduce others, except as mere auxiliaries. I need not attempt to show that this is an adequate cause, or that such analogy exists. In looking at the history of the case you will at once recognise the most prominent effects of this agent exerting its deadly powers in a manner too obvious to require further proof. Indeed it would seem that this disease of the horse, closely stimulated some of those violent forms of fever, which in different parts of the world has destroyed great numbers of the human race. You will recollect that history furnishes us with the account of several epidemics in which domestic animals were simultaneously affected with man, and that too with very similar diseases. From these, we learn the susceptibility of their systems to malaria and its analogous effects in different races of animals. But it is said the horse is not subject to idiopathic fever. Whether this proposition be true or false, depends on the definition given to the term fever. While some make fever to consist of inflammation, others say it consists of a peculiar affection of the nervous system, associated or not, with inflammation. It is therefore idle to contend upon this point, and all I wish to say, is, that whatever we call it, its pathology more closely resembles the violent form of fevers than any other disease with which I am acquainted. Adopting the older hypothesis of the two, I regard indisposition to motion, lassitude, and prostration of strength, as resulting from the primary effects of the deleterious influence of malaria upon the nervous system, and inflammation, when it occurs, as it generally does in all severe cases, as the consequence of such influence.

According to this theory, the disease does not consist in a simple acute inflammation of the brain as might be inferred from the autopsic appearances, but in an inflammation superinduced in a system greatly prostrated by previous affection. Inflammation may succeed so immediately as to afford no opportunity to mark that other and primary affection which laid the foundation, or, if I may so say, created the necessity of its occurrence. Yet, notwithstanding this rapid succession, the fact of its existence, I regard as beyond reasonable doubt, and its admission made necessary in explaining the phenomena of the disease. It is also of further importance in reference to the use of curative means. Should the physician, on discovering inflammation of the brain, stomach or intestines in typhus fever, adopt the same course as in ordinary attacks of acute phrenitis, gastritis or enteritis, without regard to the complicated nature of the disease, he would deserve very little credit for his skill. True, the same means might be necessary, but the measure and adaptation of them must be widely different to insure success.

Having in a very hurried and imperfect manner, given, thus far my pathological views, I shall now proceed to state, in a general way, what I suppose to be the most rational plan of treatment. The constitution of the horse is known to differ materially from man in respect to the influence of some of the most energetic medicines we possess. Whatever may be the knowledge of others in the use of medicines in the complaints of horses my own is so limited, that I shall confine my remarks principally to the management of blood-letting, the most efficient, if not the only remedy worth consideration. But before coming to particulars it is proper to state that the objects to be regarded in the treatment, are, the prevention of inflammation when the earlier symptoms are noticed, and the cure of it where it already exists.

When the first symptoms, such as loss of appetite, languor, and indisposition to motion, are timely observed, a warm but well ventilated stable, a light diet, and some mild cathartic, as neutral salts, may perhaps prevent the further development of the disease. My mare was in a pasture near the house, and several of my family have expressed their belief, that she was unwell two or three days before I knew it. They drew this conclusion from her standing about in a listless and unusual manner. Cold rigors with more or less delirium will generally announce the formative stage of inflammation. This will commonly be followed by a re-action more or less perfect, attended with corresponding heat and high vascular excitement. When the heat of surface is nearly uniform, a large opening should be made in one of the jugular veins, and the blood allowed to flow, regardless of the quantity taken, till faintness is induced. Should the same symptoms continue, the blood-letting may be repeated in the same way, in four, six, or eight hours, according to the violence of the case, and even a third or fourth time, should it be necessary to control the disease. An active cathartic and cold applications to the head and neck, a dark stable and the most perfect stillness may be regarded as valuable assistants.

These cases, in which the reaction is imperfect and the extremities continue cool and the heat of surface inconstant, will be found, by far, the most unmanageable. When the cold stage is protracted, friction, warm blankets, and warm aromatic drinks will be useful, and should these not succeed in a reasonable time, a small quantity of blood may be taken to unload the congested organs, and spirit diluted with warm water, may be frequently administered till the object is gained, and stop as soon as the circulation is developed. As soon as the circulation is restored, the treatment must be the same as above mentioned. The bleedings should ever be small when there are frequent alternations of heat and cold, and proportioned to the degree and permanency of heat. When no reaction takes place, or where it is long protracted, every variety of treatment will fail.

Sould the violence of the disease be subdued and the horse does not convalesce, blisters applied on each side of the cervical spine, with laxatives, rest, and light diet will be the probable means to remove the remainder of the disease. During convalescence it will be necessary to avoid over exertion, feeding, and exposure to cold.

If the views taken in this paper be correct, it will not be singular if other organs than the brain were sometimes found inflamed.

Already having extended this paper to a great length, I am compelled to omit many things worthy of notice; but I shall need to make an apology, rather for what I have, than for what I have not written; for I am free to confess, that however satisfactory it may be, to reason from analogy on the same species of animals, it is very liable to lead us into error when this method is extended from one species to another.

Respectfully, Gardner M. Peck.

(From the Philadelphia Journal of Pharmacy.)

EXTRACTION OF SUGAR FROM THE SECKEL PEAR.

Philadelphia, Oct. 20, 1831.

The remarkable sweetness of the Seckel pears, which are cultivated at the country residence of my father, induced me to attempt to obtain sugar from them. In 1826, I commenced experimenting on them, with a view of separating the saccharine matter they contained: after treating the juice with lime, I concentrated it, until its boiling point stood at 230° Fahrenheit (the degree required for crystallizing sugar,) and obtained a syrup of a pleasant taste and of the colour of fine molasses.

The two succeeding years, I obtained nearly the same results, but the syrup, as in the other case, would not crystalize; I have some at present, which still remains in the same state.

But in 1829, the season being favourable for fruit, I procured some very fine, the juice of which (it was a grayish colour, with a light tinge of orange, which last colour deepens in a very short time) I heated nearly to the boiling point, neutralized and separated the feculent portion, by treating it with an excess of lime, which when precipitated, left a clear aqueous syrup of a light straw colour, of the specific gravity of nearly 1075. I then neutralized the excess of lime, remaining in the syrup, concentrated and clarified it with ivory black, and reduced it until its boiling point marked 220° Fahr. Having been prevented from attending to it for a few days, when I proceeded to terminate the concentration, I perceived that it had become so glutinous and ropy, I feared it would burn in the operation; I therefore put it into white glass bottles. It was clear and of a fine yellow colour.

Eighteen months after this, some fine white crystals had formed, resembling those from sugar cane (rock candy.)

Last summer, I treated some juice in the same manner, but owing, I believe, to the unsoundness of the fruit, (the season being unfavourable,) the syrup was dark and acquired a taste from the ivory black, which was of inferior quality. I then exposed this syrup in evaporating pans, in a hot atmosphere; it thickened, but has not yet crystallized, whilst the glutinous syrup of 1829 crystallized almost entirely, although the crystals were darker than those formed while cold.

Business calling me from the city, I submit to you the experiments, that you may continue them if you think proper, and take the liberty of calling your attention to a fruit, which, though of a delightful flavor, is scarcely known beyond the vicinity of this city. I estimate its value for sugar, from the knowledge that its juice can be as easily and cheaply obtained as that of the apple, and that it contains nearly two pounds liquid sugar per gallon, whilst its agreeable flavour and sweetness, leave little doubt of the quality and strength of the perry or vinegar that could be obtained from it.

That these feeble instructions may lead to the creation of a new branch of industry, is the sincere wish of, Your obedient servant,

Amable J. Brasier.

The committee to whom was submitted the sugar and syrups prepared by Mr. Brasier and presented by him to the college, beg leave to report:

That so far as they have been able to ascertain, the sugar obtained by Mr. Brasier from Seckel pears, possesses all the properties of the crystallized cane-sugar; and in no respect does it seem to differ from it. Its taste, crystallization, solubility in water, &c. are exactly the same. Three samples have been submitted to the college; the one very white and in regular crystals; another, a little inferior, and the third sample, in a granular state of a grayish colour, possessing the appearance and smell of dry Brazil sugar of an inferior quality.

Mr. Brasier left for the committee, two bottles of syrup made from the Seckel pear, one containing the syrup made in 1829, and which afforded the samples he produced; the other, was the syrup he made last year. The principal object of the committee was the investigation of these two syrups, with the view of depriving them of their glutinous properties as this was probably the only cause of the difficulty in the one case, and the impossibility in the other of obtaining crystallized sugar. Your committee having at their disposal but a small quantity of these syrups to experiment with, had little hopes of success; but they have not been deterred from undertaking the task, though their experiments may have proved few and unsatisfactory. They expect to be able next year to institute a series of new experiments upon the fresh juice of the Seckel pear, and to submit to the college a more ample and satisfactory report than this. Mr. Brasier's discovery involves, undoubtedly, a very important question, whether the northern climates are not as capable of producing sugar as the tropical.—We hope that your committee will receive the assistance of persons interested in the promotion of science, manufacturers and national wealth, and that scientific and enterprising men, led towards the same object, will communicate to us the result of their own labours.

The first syrup made in 1829 is perfectly transparent, of a light straw colour, and holding in suspension a considerable number of small prismatic crystals; its consistence is viscous and ropy, and its sp. gr. 1. 365; heated in a sand bath it became more fluid, but still retained its ropiness; the crystals which floated in it when cold, fell down when heated; owing to its viscidity, it mixes with difficulty in cold, but dissolves readily in warm water. In contact with sulphuric acid, it acquires a deep brown colour, without emission of sulphurous acid: nitric acid decomposes it with production of nitrous vapours and formation of oxalic acid: muriatic acid did not seem to have any action upon it. Sub-acetate of lead and alcohol rendered it turbid and precipitated a flocculent matter.

Six drachms of warm syrup were mixed with three ounces of alcohol (distilled from grain) of 35° of Baume's areometer, the mixture became turbid, and a white precipitate of flocculent matter subsided gradually; this precipitate was removed by filtration and carefully washed with tepid alcohol. The alcoholic liquors were united and slowly evaporated at a heat of about 160°. When reduced to the crystallizable point, the syrup had lost all its ropiness: carried to dryness it produced five drachms of very white sugar, impregnated with the smell of whiskey, and slightly contaminated with a little uncrystallizable syrup. After washing this sugar with alcohol, it was redissolved in distilled water, and the syrup reduced in the crystallizable point, was entirely deprived of its former ropiness, and deposited, on cooling, a number of small crystals of pure sugar; what remained on the filter was found, next morning, to be a hard substance, much reduced in size, and weighing four grains only. This substance, examined with the glass, presented the following characters—it was of a red brown colour, shining and hornlike on the side exposed to the contact of the air, on the other side it appeared spongy, porous and of a lighter colour: its sp. gr. was great. Thrown into boiling water, it did not dissolve, but became white and considerably larger; it continued, however, to sink in water. This substance had many of the characters of gluten, but submitted to the action of the fire it did not evolve an ammoniacal odour, it burnt with a black smoke, and emitted an odour similar to lignia, leaving for residium a piece of charcoal about one fourth its former bulk, hardness and colour. Iodine had no action upon this substance, but hydrochloric acid dissolved it completely.

The brown syrup of 1830 was treated in the following manner—two ounces were dissolved in one ounce of boiling distilled water, and then mixed with six ounces of alcohol of 35°. The mixture became turbid, and a copious precipitate fell down; this precipitate separated from the alcohol, did not adhere to the fingers, and could be malaxated like warm molasses candy. This precipitate dissolved easily in boiling water, but sweetened it very little. A portion of it permitted to dry in the air, acquired a deep brown colour, shining at the surface, and spongy inside; of a sweetish taste somewhat like the flesh of a dry raisin.—Thrown upon an ignited coal, it swelled up, took fire, and burnt with the smoke and smell of a woody substance, but without emitting either an ammoniacal or burnt sugar smell.

The same filtered solution was then treated with sub-acetate of lead, which threw down a very copious precipitate; the liquid became considerably lighter in colour, and after being filtered, a steam of hydro-sulphuric acid was passed through it, to precipitate the lead; it was filtered again, after ascertaining that it was entirely free from lead. The liquor now reddened litmus paper, but the acidity was soon removed by boiling. It was then evaporated to the consistence of a thick transparent syrup, of the colour of light Madeira wine, which was set aside to crystallize, but did not after remaining several days.

(To be continued.)

(From the New York Journal of Commerce.)

KILN DRIED CORN MEAL.

Kiln dried meal must be made of the best *yellow* corn; white would not sell. Hogsheads should be made of the best seasoned white oak stuff, 2 feet 5½ inches long, and be 2 feet 3½ inches across the head.—Four iron hoops on each hogshead. The rest of the hoops, strong, smooth hickory. The hhds. must be made tight, as they are sold for rum hhds. in the W. Indies—the only market for them.

The corn is dried in a long sheet iron cylinder, or in pans (put in motion by the mill) in a heated air-chamber of brick. The meal is sifted; the cloth as open as the common middlings cloth in a sup. reel, and about four feet long.

The weight in each hhd. 800lbs. and the hhd. must be branded with the name of the maker and *kiln dried corn meal, No.* 1, 800*lbs.* The meal must be of a bright yellow, and smell strongly of the kiln, or it will not pass inspection. Ten hhds. per day is moderate work for a good pair of burrs and a good kiln; sixteen bushels of good corn will make a hhd.—old corn less. Ten to 12,000 hhds. are in New-York yearly for the West Indies.

It would not be safe for a new hand to construct a kiln, without the presence of an experienced workman who has put them up. The sheet iron pans are better than the cylinders.

The price in New-York varies from $13 to $15 through the year, when corn is plenty. The cost of a complete kiln with pans, is $400 to $500.

The vegetating principle must be entirely destroyed, and the point of sufficient dryness can be easily ascertained by the smell of the meal while grinding. Great pains must be taken in making the hhds. *well*, and of stuff long seasoned; or the meal will make them shrink so much that they will fall to pieces before they reach the market.

MISCELLANEOUS.

(From the Charleston Courier.)

THE SORA.

Charleston, S. C. January 2, 1832.

An article from a Petersburg, (Va.) paper, under the above title, has been going the rounds of the newspapers, which, as it appears calculated to perpetuate error, seems to require some notice.

The author of the communication in the Petersburg paper, states, that "it has long been a question among naturalists, whence cometh the Sora, and whither goeth it." He then goes on to state the following fact, which he thinks may possibly settle the question: "One of a skating party, on a meadow in the vicinity, happened to break in, when immediately upon extricating himself, four or five Soras came through the aperture, one of which was caught, the others retreated beneath the ice and thus escaped."

The writer of this, has paid some attention to the study of Natural History, for several years past—has in his leisure hours, particularly investigated the subject of the migration of birds, and among the rest of the Sora, and he requests permission to offer a few remarks on the habits of this singular bird.

The Rallus Virginianus, a small bird of nine inches in length, is in Virginia called the Sora, in Pennsylvania the Rail, in New York the Water Hen.—During the whole of the summer, scarcely a bird of this description is seen in the Middle States, when early in the month of August, all of a sudden the well known cackle of the Soras is heard along the reedy shores of the Delaware, Schuylkill, and James rivers, So abundant are they that it is not uncommon for a single sportsman to bag upwards of a hundred, that have been killed in one tide, during three hours. This war of extermination continues several weeks, and the markets are abundantly supplied with these delicious birds, until about the middle of October, when in a single night, they all disappear as suddenly as they arrived. On the very marshes where the day before hundreds were killed, not a single bird is now to be found.

This mysterious appearance and departure of a bird that possesses several other peculiarities, has occasioned many conjectures "whence cometh and whither goeth the Sora."

Many persons contend that they bury themselves in the mud, and remain inactive, like amphibious animals, till the following spring. Others believe that they are changed into frogs, and the skaters on the waters of Virginia, seem at last to have made the discovery that they retreat under the ice, and thus become fishes, (at least in their habits) during a part of the year.

A very sensible article on the migration of the Sora, is found in the 6th volume of Wilson's Ornithology. Since that time, considerable has been added to the stock of information with which that celebrated Ornithologist favoured the public, and the history of this bird is now as well understood by Ornithologists, as that of the most of our migrating birds.

The Rallus family, contains several species, of which the Sora is one, and our common Marsh Hen another, and there is a beautiful species in the interior of Carolina, that was overlooked by Wilson and remains yet to be described. The land rail and the water crake of Britain, are of the same family, and the habits of all bear a very strong similarity.

The Sora seldom breeds in the Middle States. The writer of this was shown some of the eggs of this bird, that were found in the meadows below Philadelphia; he once found a nest along the Hudson river, and saw two others along the marshes on Lake Champlain, but it generally breeds much farther North, as far as Hudson's Bay. He was informed by an intelligent trader, that in collecting the eggs of the wild goose (Ansu Canadensis,) he found a great number of the nests of the Sora. No sooner are these birds well grown and able to fly, than they migrate southerly. By the time they arrive in the Middle States, a species of reed, (the Zizania aquatica of Elliott) begins to ripen its seeds. Of these the Sora is very fond—feeding on it greedily, and soon becoming fat. It is very susceptible of cold, and the very first frost drives it reluctantly from its favourite reedy marshes, to seek a warmer climate. About the time these birds leave the Delaware and Virginia, they make their appearance in the Carolinas in considerable numbers. They are scattered among our marshes and grassy fields. They are not easily made to rise on the wing, hence are not frequently seen, but they are heard in every direction for several weeks. The writer of this saw six that had been killed in a couple of hours, in the salt marshes near Charleston, by an individual whilst in pursuit of Marsh Hens; and in the present year, one was shot on James Island, near this city, as late as the 10th of November. Very few of these birds spend the winter in the territory of the United States. They no doubt follow in the train of many of our swallows, fly-catchers, and sylvias, and remain within or south of the tropics, till the spring invites their return. Certain it is, that about the beginning of March, and sometimes a little earlier, the Soras pass through our low country, on their way back to the north, and their well known notes are for a few weeks heard again in our low marshy grounds: they advance rapidly through the Middle and Northern States, are seen on the rivers that empty into the upper lakes, and retire still farther north, on their way to their annual breeding places.

The Sora appears to be a clumsy flyer, but this is merely a habit, which it has with many other birds, who see best in the evening or at night, and fly awkwardly and with seeming difficulty in the day. Let the observer only take his stand on the banks of the Delaware or Schuylkill, in the month of September, early in the morning or late in the evening, and he will see it dart across the river, with the ease and rapidity of the snipe. It is as capable of migrating as any other bird. In the autumn of 1819, we saw two that flew on board of a ship thirty miles from land; and it is mentioned by bishop Madison, that several Soras came on board of a vessel, upwards of three hundred miles from the capes of the Chesapeake.—That this bird is not more frequently seen in its migrations, is owing to the circumstance of its flying by night, and of its being consequently never seen making long flights by day. This habit of migrating by night it possesses in common with the woodcock (Scolopax Minor,) the snipe, the rice bird, and many others.

That a few of these birds may, from some cause, be overtaken by the winter in the North, and may, under such circumstance, hide themselves from the severity of the cold, in hollow logs, drains, or even under broken pieces of ice, where there is but little water, is possible; but that they can under such circumstances, survive the winter, or even a few days, is highly improbable. If the writer in the Petersburg paper means to convey the idea, that the birds he refers to, came out of the water, from under the ice, where they had no access to the atmospheric air, he must have intended it as a hoax upon the naturalists, who are supposed to swallow but too greedily the marvellous tales of those, who afterwards make themselves merry at their credulity. We might as soon expect to see the whiting, the mullet, the perch, or others of the finny tribe, skipping out from beneath the furrows of the plough, as to see the Sora emerging from under the water, where it had quietly gone to spend the winter among the fishes and amphibious reptiles.

Any one who will examine the internal structure of this bird, must be convinced that it is incapable of remaining under water beyond a very short time. The habit which it possesses with several others of the same genus, of diving, and disappearing for a considerable length of time when wounded, has induced many persons to believe that it could not be drowned. This, however, is not the fact. When wounded, it sometimes clings to marshes and weeds under water, and dies there, but it more frequently rises near the surface, and merely protrudes a sufficient portion of its bill out of the water to enable it to breathe. We once, in company with some naturalists of Philadelphia, tried an experiment upon two Soras, that had been slightly wounded in the wing, to ascertain how long they could live under the water. They were placed in a covered basket, which was sunk in the river. One remained fifteen minutes in the water, the other eight; on taking them out both were found dead; we placed them in the sun for several days, but they were never resuscitated.

The perplexities with regard to the migration of birds, are every day removing. Not many years ago it was supposed that the swallows retired into hollow trees, or under the water, and there remained dormant through the winter, until the cheering sun of spring revived them; but any careful observer, who will place himself on the outskirts of our city, from August to November, and will look about him, may easily unravel the mystery. There he will see the swallows, from the purple martin down to the minute bank swallow, sailing gaily through the air in pursuit of their favourite food, and winging their way from their breeding places in the north to the sunny south, where abundance of insects and balmy skies welcome their annual return. And could he but have the faculty of seeing by night as well as by day, he would find the now mysterious Sora pursuing the same course, and with the rice bird, with which it has associated on the reeds of the rivers in the Middle States, going to spend the winter in a climate more congenial to its tender frame.

For the gratification of those who may feel a desire to examine the Sora, a stuffed bird of this species is sent to your office, which was obtained a few weeks ago in its migrations southerly.

A LOVER OF NATURAL HISTORY.

FROST AND FLOWERS.

It may be thought strange to talk of flowers, and breathing odours, on such a day as this, when the wings of every zephyr are pointed with icicles. But we have the pleasure of acknowledging as pretty a boquet of flowers from Mrs. Parmentier, as ever adorned the bosom of Flora in her own balmy month of May. We have not the botanical science to note the flowers, various and beautiful, that number up this charming little collection. Among them, however, are several varieties of roses, blushing and redolent as the breath of Spring; lilacs; the Camillia Japonica; the Passi-flora, or Winged Passion flower; Geraniums, lively and bright, &c. &c. We mention these things, that the gay belles of our city may recollect where to send their swains for garlands and nosegays, to decorate their ringlets during the present season of gaiety and cold weather. And should any of them wish to tantalize and "freeze the young blood" of their sweet hearts, no doubt Mrs. P. can furnish an ice plant to be entwined with the opening rose-bud. But what we wish to notice more particularly, is a new double-variety of the Camillia Japonica, of a bright color, which is a seedling of 1828. As it was planted and fostered by the late Mr. Parmentier, his widow dedicates it by name to the memory of her husband. It is very beautiful.

The public may have observed that the extensive gardens kept by Mr. P., and continued under the direction of his widow, are advertised for sale. Although well qualified, with the aid of her intelligent young daughter, to superintend such an establishment, yet the task is too heavy for them; and we hope that some horticulturist of capital will offer liberally for the purchase. It will be an estate.—*N. Y. Com.*

ADVANTAGE OF SHORT STAGES IN DRAWING HEAVY LOADS.

Mr. Stuart Menteath of Closeburn, proprietor of one of the richest coal fields in the island, both as to quantity and quality, has very successfully employed horse power to the drawing of heavy loads, by dividing the road into short stages. Before this expedient was resorted to, each horse could travel the distance only 18 miles, and return with a load of 24 cwt. thrice a week; that is to say, the aggregate of the labour of each horse amounted to 3 tons 12 cwt. weekly. But by dividing that distance into four stages of 4½ miles each, four horses can make three trips daily, and draw a load of 33 cwt. each trip, or very nearly 5 tons daily, or 30 tons weekly. Hence, according to this method, the aggregate of the labour of each horse amounts to above 7 tons weekly. Suppose 16 horses are employed, instead of making them travel 18 miles one day, and return with a load the following, the more advantageous plan is to arrange them in four divisions, and make each division travel only 4½ miles in succession.—Were this distance divided into six stages, the load might be proportionally increased, with less fatigue to the horses; for it will invariably be found, that the most profitable mode of applying the labour of horses is to vary their muscular action, and revive its tone by short and frequent intervals of repose.—*Quart. Journ. Agric.*

CLOTH MANUFACTURED FROM THE WOOL OF THE COTTON GRASSES.

Mr. Helliwell of Greenhurst Hey, near Todmordon, has manufactured a beautiful cotton russet cloth, and also yarn for stockings, from the wool produced by the cotton-grass plants found upon his estate there. This plant grows principally on the highest and most useless land in the kingdom, and consists of two kinds, the common or single headed cotton grass, *Eriophorum vaginatum*; and the narrow leaved cotton grass, or many headed cotton grass, *Eriophorum angustifolium*—both perennial plants, and from the latter of which the cloth and yarn were manufactured. It is supposed, that on many parts of Stansfield Common, near Todmordon, even in its uncultivated state, there might be from two to three hundred weight produced upon an acre, and that the cost would not exceed 2*d.* to 3*d.* a pound. Specimens of the yarn and cloth have been sent to us, and the cloth is remarkably firm and beauful.—*Leeds Mercury.*

DISEASES OF POULTRY.

From a series of observations made on the diseases of domestic poultry, Mr. Flourens makes the following conclusions:—1. In these animals, cold exercises a constant and determinate action on the lungs. 2. The effect of this action is the more rapid and more severe, the younger the animal is. 3. When cold does not cause acute and speedily fatal inflammation of the lungs, it produces a chronic inflammation, which is pulmonary consumption itself. 4. Heat always prevents the attack of pulmonary consumption: when the latter has taken place, heat suspends its progress, and even sometimes arrests it entirely, and effects a complete cure. 5. Pulmonary consumption is never, in any stage, contagious: Fowls affected with that disease were not only all day along with the healthy fowls, but at night roosted in the same places, without communicating their disease to them. 6. Lastly, the action of too long confined air exposes these animals to abscesses of the cornea, and inflammation of the ball of the eye.—These abscesses and inflammations are also caused in a still more cruel manner, by cold, especially when accompanied with moisture.—*Annales des Sciences Naturelles.*

AGRICULTURE IN ENGLAND.

An American gentleman, a correspondent of the New-York Observer, and now in England, thus speaks, in comparing English agriculture with that of this country.

From Manchester to Birmingham, with the exception of the coal regions of Wolverhampton, and another few miles of poor land, the whole country is a perfect garden. An American farmer knows nothing of English husbandry. The difference is too wide for him to be able to appreciate it. Select the most cultivated grounds of the rich on Manhattan Island, or behind Brooklyn, or in the immediate vicinity of Philadelphia, or of Boston—and they are only ordinary specimens of English farming. A poor English cottager displays a taste about his humble dwelling, and gets a product from his little patch, which might shame the wealthy farmers of the United States. I wish not to speak disrespectfully of my country, or countrymen—but I should like to provoke them, by whatever means, to more rapid improvements, both in agriculture and horticulture.

LIVE OAK.

It appears by a letter of Col. White, of Florida, addressed to the committee of Naval Affairs, that each acre of land, adapted to the cultivation of the live oak, will bear twenty trees, which, in fifty years from the time of planting, would be fit for ship-building; and worth ninety dollars each; and that the expense of superintendence during the whole period of their growth, for a plantation of 6,000 acres, would not exceed $100,000. Little progress has been made in promoting the cultivation of this timber on the lots which have already been purchased; nor have we seen any indication that any measures of importance have been taken for this purpose by the present secretary of the navy.—*Advertiser.*

THE FARMER.

BALTIMORE, FRIDAY, FEB. 3, 1832.

FARMERS AND GRAZIER'S GUIDE.—Messrs. Carey & Hart, of Philadelphia, have just issued from the press another excellent book for farmers, entitled, "The Complete Cattle Keeper, or Farmers and Graziers' Guide," by B. Lawrence, of England. The book professes to be a guide in the choice and management of neat cattle and sheep, including useful observations and suggestions relative to the comparative value of the various breeds, and on the injurious effects resulting from improper food and impure water. It also contains hints to dairymen on the best construction of the cow house, or stable, and on the management of milch cows; and a description of the internal structure of neat cattle, and of their digestive system. It contains also, a treatise on the diseases to which cattle are subject, in which the causes are pointed out, the symptoms described, and approved methods of cure given; together with the proper management of calves and lambs, and much other matter highly useful, and necessary to the success of the farmer and grazier. We have no hesitation in recommending this little book to the attention of every owner of a cow in the U. States, feeling perfectly satisfied that they cannot fail to receive ample returns for the dollar they will lay out in its purchase. We shall take occasion to extract some useful hints from its pages for the Farmer, but in the mean time recommend our agricultural friends to obtain the book. It may be had at the Seed Store, connected with the office of the American Farmer.

DIMINUTIVE COW.

The Perth (Scotch) Courier mentions a cow which passed that place, on its way south, only 3 feet 8 inches long and 18 inches high.

Prices Current in New York, Jan. 28.

Beeswax, yellow 18 a 20. *Cotton*, New Orleans .10 a .12; Upland, .7½ a .10; Alabama, .8 a 11. *Cotton Bagging*, Hemp, yd. 14½ a 17; Flax 13 a 14½; *Flax*, American, 7 a 8.——*Flaxseed*, 7 bush. clean 16 50 a—— *Flour*, N. York, bbl. 6.12 a ——; Canal, 6.50 a 6.75; Balt. Hwd. st. 6.50 a 6.62; Rh'd. city mills 6.50 a 6.62; country, 6.00 a 6.12; Alexand'a, 6.25 a 6.50; Fredericksburg 5.87½ a ——; Petersg. 5.87½ a ——; Rye Flour, 4 62 a 4.68; Indian Meal, per bbl. 3.37 a 3.50; per hhd. 16.25 a 16.50; *Grain*, Wheat, North, —— a ——; Vir. 1.16 a 1.19; Rye, North, — a 90; Corn, Yel. Nor. 63 a —; Barley —— a ——; Oats, Sth. and North, .38 a 46; Peas, white, dry, 7 bu. 5. Beans, 7 bu. 7.00 a 8.00; *Provisions*, Beef, mess 9.00 a 9.25; prime 5.50 a 6.25; cargo —— a ——; Lard, 10½ a .11; Pork, mess, bbl. 13 50 a 14.00; prime 11.50 a 11.75.

General Agricultural and Horticultural Establishment.

Comprising,—A Seed and Implement Store; a General Agricultural Agency, and the Office of the American Farmer, in the basement of Barnum's City Hotel, Baltimore.

In Connexion with a Stock and Experimental Farm and Garden in the Vicinity.

By I. Irvine Hitchcock and Gideon B. Smith.

FRESH GARDEN SEEDS.

A general assortment now on hand, mostly raised by Gideon B. Smith in 1831.

D. & C. LANDRETH,

NURSERY AND SEEDSMEN, Philadelphia,

Have appointed the subscriber agent for the sale of their GARDEN SEEDS; he vends no seeds but those from this establishment, and is authorised to say, that of him only can they at present be purchased in BALTIMORE.

Each parcel bears their label and warranted.

Orders received for FRUIT and ORNAMENTAL TREES, SHRUBS & GREEN HOUSE PLANTS, to be supplied from their nurseries with all possible despatch, and carefully packed. J. J. HARROD,

172 Baltimore street, Baltimore.

☞Catalogue for 1832, with a Treatise on the Cultivation of Esculent Vegetables, will issue in a few days —*price* 12½ *cents*, and to be had of all their agents.

J. J. H. has just opened on sale a large assortment of the above seeds. Feb. 3.

AGRICULTURAL IMPLEMENTS, SEEDS, &c.

SINCLAIR & MOORE, Grant street, near Pratt street wharf, offer for sale a large and general assortment of the most approved AGRICULTURAL IMPLEMENTS, consisting of their new improved PLOUGHS, of sizes from six to twelve inches. cast and wrought shares; Wood's Patent Ploughs of different sizes; Barshare, with wrought shares and coulters; Corn Shellers; improved Wheat Fans; Straw Cutters of various kinds, from $5 to $70—among them is the Cylindrical Straw Cutter, made after the model of the English Machine, with some improvements, and which can be furnished at about half the price at which they have been imported; THRASHING MACHINES and HORSE POWERS; Cast Steel Axes; Grubbing Hoes; Picks; Shovels; Spades; Straw Knives; Steel Hay and Manure Forks, &c. &c.

Clover, Timothy, Tall Meadow Oat Grass and other FIELD SEEDS—together with an assortment of Fresh Garden Seeds, warranted good.

Also expected in a few days from England, a further supply of first quality Early York, Early George, Wellington, Sugar Loaf, Ox Heart, Battersea and Green Savoy Cabbage Seed; Brocoli, genuine early frame short top scarlet Radish Seed, and various other kinds of seed, of last year's growth.

FRUIT TREES, ORNAMENTAL TREES and SHRUBS. Catalogues gratis at our store. Feb. 3.

THE FARMERS AND GRAZIERS' GUIDE.

Just published and for sale at the American Farmer Office and Seed Store—*price* 88 *cents*.

THE COMPLETE CATTLE KEEPER; or Farmers and Graziers' Guide in the choice and management of neat Cattle and Sheep, including useful observations and suggestions, relative to the comparative value of the various breeds, and on the injurious effects resulting from improper food and impure water.

HINTS TO DAIRYMEN, of the best construction of the cow house or stable, and on the management of milch cows, a description of the internal structure of neat cattle, and of their digestive system; the diseases to which cattle are liable, in which the causes are pointed out, the symptoms described, and approved methods of cure given—By B. Lawrence. Feb. 3.

FRESH GARDEN SEEDS.

J. S. Eastman, No. 36 west Pratt street, between Hanover and Charles street, has in store, a pretty general assortment of fresh Garden Seeds of European and American growth, and is daily in expectation of a further supply from Europe, when his assortment will be complete, and which he will be enabled to recommend to his customers with confidence, as no pains has been spared in procuring them from Seedsmen of high standing.

His assortment embraces a great variety of Cabbages, Radishes, Brocolis, Boreccoles,, the best kinds of Lettuces, early and late Cauliflower, Beets, Long Orange and Horn Carrots, a great variety of Peas and Beans, Mangle Wurtzel, Ruta Baga, Turnips, long green, early frame and cluster Cucumbers, with other varieties of Garden Seeds all of which he will sell, wholesale and retail, on reasonable terms.

Also, Canary Seed, Clover, Timothy, Herds and Meadow Oat Grass Seeds; together with his usual assortment of Ploughs and other Agricultural Implements suited to the season.

Also, wove Wire for Wheat Fans, Safes, and Flax Seed Screens, &c. &c.

Jan. 25, 1632.

RAPE SEED.

A small quantity of fresh Rape seed just received, for sale by the subscriber.

BULBOUS FLOWER ROOTS.

The subscriber has for sale a small but elegant assortment of Tulips, early double and single Van Thol, and common kinds; Crown Imperials and Persian Fritillaries; Polyanthus narcissus, yellow and white fragrant; Yellow fragrant and White fragrant; Double and single fragrant Jonquils, &c.

A few of his splendid collection of new Pæonies and Hemerocalises yet on hand.

BUFFALOE BERRY TREES.

The subscriber will receive in a few days a few of the new and beautiful fruit trees originally from the Rocky Mountains, mentioned in No. 5, vol. 13, Amr. Farmer, called *Buffaloe berry tree*, or Shepherdia. This is one of the most beautiful of all ornamental trees, bears delicious fruit, and is perfectly hardy—*price* $1 *each*. GIDEON B. SMITH.

AGRICULTURAL BOOKS.

A variety of the most approved works, both Foreign and American, on subjects connected with Agriculture, Horticulture, Farriery, &c. kept for sale at this office.

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Washington, D. C.	Coale & Co.
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Raleigh, N. C.	Joseph Gales & Son.
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General Agent for the State of Maryland, T. B. Brenan.

BALTIMORE PRICES CURRENT.

Baltimore Market.—The close of the navigation again, has suspended business in the produce market. The price of Howard street flour, from wagons, yesterday was $5 12½, and some few sales were made from stores at the same price, but dealers generally ask more. We have corrected our quotations of wool to correspond with actual transactions. There is no change in corn, oats, or rye. Beef has advanced, and prime would command our highest rate.

Tobacco.--Seconds, as in quality, 3.00 a 5.00; do. ground leaf, 5.00 a 9.00.—-Crop, common, 3.00 a 5.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 10.00; yellow and red, 8.00 a 14.00; yellow, 14 00 a 16.00.—Fine yellow, 16.00 a 20.00.—-Virginia, 4.00 a——.—Rappahannock, 3.00 a 4.00——Kentucky, 3.50 a 8.00. The inspections of the week comprise 33 hhd. Md.; 21 hhds Kentucky—total 54 hhds.

Flour—best white wheat family, $6.75 *a* 7.25; super Howard-st. fresh 512.½ *a* 5.25; city mills, $5.00 *a* —— *a* ——; Susq.— *a* —; Corn Meal bbl. 3 50; Grain, Md. red wheat, 1.00 *a* 1.05; white do.—— *a* ——, Susq. — *a* —Corn, white, 50 *a* 52—yellow 51 *a* 53—Rye, 75 *a* 77 —Oats, 38 *a* 40.—Beans, 75 *a* 80—Peas, 65 *a* 70—Clover-seed 5.50 *a* 6.00—Timothy, 2.50 *a* —— Orchard Grass —— *a* ——Tall Meadow Oat Grass 2.00 *a* 2.50---Herd's, 75 *a* 1.00--Lucerne — *a* 37½ lb.—Barley,—Flaxseed 1½ *a* 1 5-8-Cotton, Va. 7½ *a* 9-Lou. 9 *a* 12—Alab. 8 *a* 10—Tenn. .7½ *a*. 9; N. Car. 8 *a* .9½-Upland 8 *a* 10---Whiskey, hhds. 1st p. 38 *a* —; in bbls. 34 *a* 34½---Wool, *Washed*, Prime or Saxony Fleece 49 *a* 57; American Full Blood, 40 *a* 45; three quarters do. 36 *a* 40; half do. 34 *a* 36; quarter and common do. 30 *a* 34. *Unwashed*, Prime or Saxony Fleece, 30 *a* 34; American Full Blood, 26 *a* 28; three quarters do. 24 *a* 26; half do. 22 *a* 24; quarter and common, 18 *a* 22——Hemp, Russia, ton, $225 *a* –; Country, dew-rotted. 5½ *a* 7c. lb. water-rotted, 7 *a* 9c.—Feathers, 37½ *a* 38; Plaster Paris, per ton, 4.75 *a* ——, ground, 1.37½ *a*—— bbl. Iron, gray pig for foundries per ton 33.00 *a* ——; high pig for forges, per ton, 28.00 *a* 30.00; bar Sus. per ton, 72.50 a 80.00.—Prime Beef on the hoof, 5.50 *a* 6.00—Oak wood, 4.00 *a* 4.50--Hickory, 5.50 *a* 6.00.

CONTENTS OF THIS NUMBER.

Third Prize Essay, Agricultural Division, by Gideon Davis, of Georgetown, D. C. on Tillage—Inquiry, On the Best Means of Cultivating Western Lands—On the Value of Agricultural Books—Large Potatoes and Great Crops, grown near New Castle, Penn.—List of Native Oaks, &c. sent to the London Horticultural Society by Wm. Robert Prince—Diseases in Horses—Extraction of Sugar from the Seckel Pear—Kiln Dried Corn Meal—The habits of the Sora—Frost and Flowers—Advantage of Short Stages in Drawing Heavy Loads—Cloth Manufactured from the Wool of the Cotton Grasses—Diseases of Poultry—Agriculture in England—Live Oak—Editorial—Prices Current of Country Produce in the New York and Baltimore Markets—Advertisements.

EDITED BY GIDEON B. SMITH.

Published every Friday, (at the old office, basement of Barnum's City hotel,) by I. IRVINE HITCHCOCK, *on the following*

TERMS.

1. Price five dollars per annum, due at the middle of each year of subscription.
2. Subscriptions are in all cases charged *by the year*, and never for a shorter term.
3. When once sent to a subscriber, the paper will not be discontinued without his special order; and then not till the end of the year of his subscription that shall be current at the time of receiving such order; except at the discretion of the publisher.
4. The risk of mail in the transportation of both the paper, and of bank notes sent in payment for it, is assumed by the publisher.
5. Advertisements connected with any of the subjects of the American Farmer, inserted *once*, (seldom more) at one dollar per square.
6. All letters concerning this paper must be directed to the publisher. They must be free of postage, except communications intended for publication, and letters containing money.

☞ All Postmasters are requested to act as agents for the Farmer; they are authorised to retain $1 for each new subscriber, and 10 per cent. on *all other* collections.

Printed by John D. Toy, corner of St. Paul and Market streets.

AGRICULTURE.

CULTIVATION OF WHEAT,—IMPROVING EXHAUSTED LAND.

Spring Hills, Fluvanna, Va.
January 8th, 1832.

Mr. Smith:

I am a farmer in a small way, with seven or eight years' experience in that line, and although I am afraid to attempt to write any thing which is to appear in print, knowing that I am not qualified to do so, yet as I take so much interest in what is said in your paper relative to any thing purely agricultural, I propose to set down a little of my experience, knowing, that if what I shall say should elicit any remarks from abler hands, I shall receive my reward.

From my bad success in the wheat crop, I had came to the conclusion that my land was not at all adapted to the production of wheat, as I could not came near up to my neighbours, which was not more than five to seven for one sown.—I took much pains in putting in as I thought, leaving my field level as possible. In the fall of 1828, I concluded to change from the level to the bedding mode, and accordingly, after sowing, ploughed two corn rows in a land and run off deep water furrows after harrowing, also was particular to have cross outlets at all low places to let the water escape. These I frequently have deepened with spades or shovels, until I am certain they will take all the water off. My success upon this plan has been flattering—my crop of 1829 being a little more than fifteen and a half throughout to one sown, and on the most of my ground nineteen to one sown, and twenty-two to the acre. My crop of 1830, on my low grounds, (which were thought not worth sowing in wheat, being mostly too low and moist) was a little more than twelve for one; and a bit of old high unmanured, seven for one. Crop of 1831, all high land, eleven bushels and one peck to one sown, (although I lost three or four acres by the fly) and on a part that was fallowed land and partially manured, fourteen to one, and the same or a little more to the acre. This was a piece of old high land, four acres and three-quarters, which I had sown several times before without reaping the seed sown;—and this brings me to say something upon the mode of preparing fallow land for wheat I had often fallowed for wheat, and as often made nothing, which brought me firm in the opinion that my land would not produce wheat on fallows at all; however I determined to try a little better preparation,(the custom here is to plough, sow, plough, and harrow in.) So the lot I have just mentioned, four acres and three quarters, was ploughed in August and rolled with a heavy roller. About the middle of September it was harrowed with a loaded harrow, to break the clods that might be made tight by the roller--then ploughed and rolled. About the 22d to 25th October it was harrowed, sown, ploughed and harrowed, and deep water furrows run between the beds horizontally (for it was hilly,) the product was as before stated. This same bit of ground four years before had been fallowed in the usual way, and sowed, and did not produce half the seed. It was without manure it is true, but not more than half was manured last crop, and the whole was good; before none was worth any thing. I, therefore, think highly of a good deal of work and especially of the roller in preparing my land for wheat—it is a hard, coarse, red and grey subsoil; on sandy and gravel land the roller would be less necessary. I must repeat, that I attribute my increase of crops, on land that was *able* to produce, mainly to bedding and having the water well drained off on flat or low land. I am not prepared to say why the bedding does best on steep or rolling land, but would suggest, that as deep water furrows are run horizontally, that more water and whatever of fertilizing matter may be in the earth, may be retained and thereby render it more productive; as we often find the high land too dry, while the flat is too wet. My neighbours sow the old way—I notice no improvement in their crops.

I am disposed to say something about the means of improving exhausted land, not that I feel able to give advice to any practical industrious farmer, but if I should say any thing that may call down upon me the criticism of some farmer, it may result in profit to some of us. As to my own part, I am never tired of reading any thing calculated to forward the great cause in question.

To proceed.—When I purchased my small farm, it was very poor, having been worn out twenty years, except forty-five acres of river and creek bottom.—I determined to improve the exhuasted part; this I thought was easily done by clover and plaster with two entire years' rest in four; but to my surprise and mortification the clover seed was generally lost, except in small and detached spots; my land remained poor as ever, producing nothing but cinquefoil and dewberry briars.

Thus I continued my efforts, keeping my cattle off my grounds, until a few years past, when I determined to rely mainly upon the application of manure. I, therefore, have turned my attention to the making of that article from every possible source, and have in this way surpassed my most sanguine expectation, in the quantity made, and in getting over my old dead land. Now, instead of starving my cattle to save my ground, I give them the grass on the field next to come in corn, and they aid me in cleaning very much, and by keeping the lots well littered, both summer and winter, I have a quantity of manure to put on the poorer parts of the field when to be cropped with corn. My number of fields have for some years been four, one in corn, one in wheat, and two in clover each year. I have recently changed to five fields, and my rotation of crops is now, corn, wheat, clover, clover, clover. In the field taken for corn, I endeavour to leave out a few acres of the poorest to receive my early summer manure, this I call my fallow lot and to be sown with wheat together with the corn land.

I would not be understood to say, that clover and plaster should not be used as an improver, provided, the land has sufficient life to produce tolerable clover; but if the land is too poor to produce a covering of clover, (and that is the situation of all our old worn out lands in my neighbourhood,) no dependence is to be placed either upon rest, clover or grazing, until brought to that state of fertility by the application of manure, (lime we do not have.) Then I believe, though my experience is too short to say certainly, that the land may be continued in a progressive state of improvement by clover and plaster, rest, and a proper rotation of crops.

I would here respectfully tender to your correspondent W. D. of Chester county, Pennsylvania, my best thanks for one of his communications, I believe in the last volume, in which he recommends the sowing of timothy and orchard grass seeds with wheat in fall. I would willingly balance accounts with the Farmer for that solitary item of improvement. I had practised it upon favourite spots, but never to any extent. Last year I sowed most of my wheat land with timothy and orchard grass, and am much pleased with the result, and more especially upon fresh land, which with us does not take clover at all, but the second year runs off with what we call sorrel, which infests our lands as long as they retain their freshness. This fall I have sown all my wheat land in grass seeds, and clover to be sown also next month.

In this way I have a pleasing hope of bringing all my old worn out land to produce a crop worth attending to at least.

I would here observe, that if any part of a field is very poor, and I cant raise manure to go over it, I do not plough it at all, but leave it to be grazed in rotation.

If you consider any part of this scroll worth publishing, you can do so—either a part or the whole as you may think prudent. I may hereafter say something of my experience in horizontal ditching.

I am, sir, with the highest regard, your friend,&c.

James T. Jones.

(From the New England Farmer.)

BREEDS OF CATTLE,

Swine, Treatment of Diseased Horses, &c.

Mr. Fessenden: *Southington, Conn. Jan.* 9, 1832.

Dear Sir,—In the last No of your excellent periodical, I observed some remarks upon native stock, in which your correspondent "A. R." from very slight premises, jumps at a conclusion inconsistent with the experience of every breeder, who has had the good fortune to obtain stock of the really *improved* breeds;—and which conclusion it does appear to me from the trifling and insufficient proof adduced, is, to say the least, rather illiberal and far fetched.

The writer says, that a given pasture will feed the same *weight* of cattle whether large or small, that is, if a given pasture will feed five large cows, it will feed ten smaller ones of the same weight. But, says he, "these small cows eat but one half so much as the large, therefore, you may double the number, you may keep twenty." But why stop there? the same reasoning would permit him to keep forty;—would permit him to double his number *ad infinitum*. Really this would be exceedingly comfortable logic for farmers if it would but hold good in practice.

What improved breed can it be which A. R. has found, and which possess such long legs. The reverse of that is in accordance with my observation and experience.

The Holderness, Shorthorned, Denton, and Ayrshire breeds are certainly not long in the leg; and are all of them superior to our native breeds as milkers. There may occasionally be found among the thousands of cows of our native breeds, here and there, one possessing remarkable properties as a milker. But every person who has given the breeds above referred to, a fair trial, will, I doubt not, agree with me that *they are in general, better milkers than our native cows*; and that they are by no means, so destructive to the contents of your barns, as the remarks of A. R. would lead us to suppose.

A brother-in-law of mine, Mr. W. J. Townsend, has on his farm in the vicinity of New Haven, a cow of the Shorthorned breed which in size, form and quality, is, I think I may safely say, second to no other cow in America, either of native or foreign breed. She was imported from London, by Henry Degroot, Esq. was purchased for him there, by an eminent breeder and dealer in stock, as the best cow in England. She brought since she came into the possession of Mr. Townsend, three fine calves. For months after bringing each of her calves, she has given thirty measured quarts of milk daily, and is with difficulty prevented from continuing in milk to the day of her calving.

Mr. Joseph Morgan, of Hartford, has four uncommonly fine cows, possessing different degrees of the Ayrshire blood; one of them, a half blood Ayrshire, calved in the fall of 1830, and through the winter of 1830—31 gave regularly, twenty quarts and over of milk per day, and continued to do the same through the succeeding summer.

I have now four two years old heifers from native cows, by my full blooded Ayrshire bull, which are held to be very fine and are not accused of long legs. One only of them, (one of the most delicate and pretty animals I ever saw) brought me a calf last spring. She calved in June, and through the summer, in ordinary pasture, with my other cows, gave me twelve quarts of milk per day, and now gives eight quarts a day.

Other persons, perhaps, possess better cows, and better heifers, and I might mention many other instances, but I adduce these which are within my personal knowledge, merely to show that my observation and experience lead to results opposite to those which in the cases mentioned by A. R. were so discouraging.

SWINE.

In December of 1830, I sold to my neighbour, Mr. Zelah Barnes, two pigs out of a sow of native blood, by my imported boar of the "*Norfolk thin rind*" breed. They then together, weighed 45 lbs. In April last, they were estimated to weigh 50 lbs. Mr. Barnes is a person of undoubted veracity, and he assures me that these pigs had no extra food or care, but mine were fed and treated in all respects, as he has been accustomed to feed those which when killed at the same age usually weigh from 350 to 375 lbs. each. These two pigs were dressed on the 13th of Dec. last, then thirteen months old and together, weighed 902 lbs.—The peculiarities of the breed, are a propensity to take on flesh, and to dispose of it upon the best points, small bone and light offal, *thin rind* and flesh of uncommon fineness of grain and delicacy of texture.

HORSES.

A correspondent of yours some time since made, I think, some inquiries respecting a cure for *ring bone in horses.*—I am frequently called upon to prescribe for horses and colts so affected. In almost every instance, blistering ointment, if perseveringly applied, will be of service and in some cases effect a complete cure. It stimulates the part so that the bony secretion is taken into the circulation and carried off.

The doctrine advanced by the writer in the American Farmer, that bots are of no injury to a horse, is not a new theory; at least so far as *he* is concerned, as will appear by a reference to the "Farmer's Series" where the same theory is broached.

So far as I am acquainted with the subject, horses taken suddenly ill, if doctored for the bots, will be sure to die. I will mention only one instance of the many which have occurred within the course of my observation. A remarkably fine family horse belonging to a neighbor of mine, had as I should express it, a violent attack of colic. During the day, under the care of those who consider themselves skilful in the art, he was made to swallow immoderate doses of medicine, which had "never failed to kill the bots," (horse?) In the evening, a request was sent me, that I would see the horse. I found him in agony, covered with a cold sweat and apparently in his last struggle. His owner was persuaded that nothing could be done for him and had given him over. I directed emollients to be applied to counteract the effect of the medicine he had taken—that he should be carefully clothed, and be kept as quiet as possible. The next day the horse was nearly well.

For almost every sudden attack of disease to which horses are liable, bleeding, if immediately effected, is a most excellent remedy and the only one which in all cases can at once be employed. A very valuable horse which I have (worth 2000 dollars) although apparently in perfect health the preceding evening, was, when led from the stable one morning, so affected by *anticor* as to be unable to raise his feet from the ground.—I immediately opened a vein in the inside of each fore leg, and in the course of the day, took from him more than twelve quarts of blood. By dint of hand rubbing of the muscles and repeated bleeding, in three days the horse was well and he has never been in the least troubled with that disease, although more than a year has elapsed since that attack. Had I temporized and tried other things, without copious bleeding, the horse would have been ruined.

In the course of the last season, my grooms bled by my direction from fifty to one hundred different horses, some of them repeatedly at different times until they *fainted*, taking from the jugular vein through a large orifice from ten to twelve quarts of blood, and in no single instance have I known any accident or injury to arise from the practice. C. Robinson.

CHEAT OR CHESS.

We ask the attention of our farmers to the article in the agricultural department of this number, on the subject of "cheat, or chess." The opinion, which we know to be entertained by many persons, that cheat is produced from the seed of wheat, cannot be too soon exploded. It not only, as we think, bears absurdity upon its very face, but is also productive of no little mischief. The notion frequently prevents all attempts to extirpate the cheat, as many farmers suppose that, if there were not a solitary seed of this *enemy to wheat* on their farms, they would be just as likely to have a large crop of chess on their fields, *as though the seed were carefully sown in them!*—We offer a PERPETUAL FREE SUBSCRIPTION to the "York County Farmer" to any individual who can prove to our satisfaction, that wheat seed will produce any other kind of grain than wheat. And we will undertake to raise a crop of turnips, potatoes, or watermelons, from the seed of a cucumber, as soon as we are convinced that chess is, or can be, produced from any thing but the seed of chess.—*York Co. Farmer.*

(From the New England Farmer.)

ITEMS OF HUSBANDRY FROM VARIOUS SOURCES.

Prepared by the Editor.

SHEEP FED WITH PEA STRAW.

Sir John Sinclair says "there is no food of which sheep are fonder than pea straw; and where circumstances are favorable to that crop, peas ought to be cultivated, merely for the straw, from the advantages that would thence be derived by the sheep farmer." Mr. Young also observes that "the straw of early white peas, applied to sheep, is the most valuable return made by straw."

PREPARING STRAW FOR CATTLE FOOD.

The ancients were accustomed to prepare their straw for feeding stock, by keeping it for a considerable time sprinkled with brine; it was then dried, rolled up in bundles, and given oxen instead of hay.

MANAGEMENT OF GRASS LANDS.

Rolling was formerly considered to be indispensable in the management of grass lands, tending to smooth and consolidate the surface; to prevent the formation of ant-hills; to promote the growth of valuable herbage; and to render the effects of drought less pernicious. But scarifying the turf with a plough, consisting only of coulters, or harrow teeth, so that the whole surface may be cut or torn, is to be recommended, *when the pastures are hide bound.* That tenacious state rolling tends to increase; whereas by scarifying, the surface is loosened, and the roots acquire new means of improved vegetation. This operation seems particularly useful, when it precedes the manuring of grass lands; for if well scarified, the ground is so opened, that any manure spread on it, gets at once to the roots, consequently a small quantity thus applied, goes as far as a larger one laid on in the old mode, and without such an operation. Thus the force of objections to the application of putrescent manure to grass lands is in some degree obviated.

PASTURE LAND.

Feeding sheep with oil cake, and allowing them to pasture on land overgrown with mosses, has been found to be effectual for the destruction of moss and the means of bringing up abundance of grass.

SOILING.

By soiling is meant the feeding of stock in a house, shed, or fold, with cut green food, instead of making the grass into hay or pasturing the field.

Working horses, or oxen, derive great advantage from soiling. They are saved the trouble of collecting their food, after their work is over; can fill themselves much sooner, and consequently have more time to rest; and can take their repose much better in a stable or shed, with plenty of litter, than in an open field, where there are so many things to annoy them.

The experiments of soiling cattle have likewise been successful. Young steers become more tractable for work; nor is there any risk of cattle being hoven, if their feed is mowed two days in advance. For milch cows in particular, it is highly expedient to soil them, at least in the middle of the day, that they may not be tormented with flies in the field, nor induced to stand in brooks or ponds of water, nor in the shade of spreading trees or hedges, by which much valuable manure is lost. The stock are thus kept in a healthier state, and the milk is of a superior quality.

LUCERNE.

Sir John Sinclair says of lucerne, "This valuable grass requires a dry and rich soil, which must be *thoroughly cleared of weeds by two or three previous hoed crops.* It may be sown either broad cast, which is the usual method, or drilled nine inches apart, between rows of barley equally distant. It is better to sow it with barley or oats thinly seeded, both on account of the profit of the crop, and as the grain furnishes some protection to the plants from the attacks of the fly, which does great injury to it when very young. If drilled, from 12 to 15lbs. of seed will do; if sown broad cast, not less than 20 lbs. It may often be cut four times a year. Lucerne is much superior to clover for soiling milch cows, giving no taste to the milk or butter, and one acre is sufficient for 3 or 4 cows during the soiling season. In rich land, a quarter of an acre will be sufficient for each of all sorts of large cattle taken one with another; but on moderate soils, half an acre per head is the proper allowance. *Lucerne requires to be kept thoroughly clean by hand hoeing and scarifying between the drills.* All other grasses, should be carefully plucked out."

It appears from the above, as well as from the directions given by other writers on husbandry that weeding is as necessary for lucerne as for Indian corn, until the lucerne has obtained entire possession of the soil.

By some experiments made by the Hon. Robert R. Livingston, it appears that with good cultivation and abundant manuring, from six to nine tons of hay may be obtained from an acre of this grass in a season. That gentleman asserts in substance, that the ground must be highly pulverized to insure a good crop. Twenty pounds of seed are required for an acre if sown broad cast. He advises as the result of his experiments. 1. Never to sow on ground that is not perfectly pulverized. 2. Not to sow till the ground has acquired a degree of warmth friendly to vegetation, viz. in May. 3. To sow with no crop that will probably lodge. 4. If sown with buckwheat, to apply no gypsum or other manure till the buckwheat is off. 5. When the quantity sown is small, and the farmer can afford to lose a crop, to give the ground one turn in the autumn, another in April, harrowing fine, and a third the beginning of May, and then if the weather be mild and warm sow, if the ground be in perfect tilth, otherwise give it another ploughing.

"When lucerne turns yellow it should be mowed, and the plants will come up free from the disorder."

(From the Skaneateles Columbian.)

PLANTING CORN.

I have for several years been in the practice of sowing my wheat fields early in the spring with timothy and clover seed; and the next season I have ploughed the ground as late in the spring as would answer for planting corn.—By this time the grass would be like a meadow; and on examining the soil, I found it very much filled with the roots of the grass, which kept it unusually light and mellow, and always productive. The result of these experiments induced me to sow my cornfield with grass seed, the present season, after hoeing the last time. This does not appear to have injured the corn; and I have no doubt but the field will be well clothed with grass by the time for fallowing next year. Having full confidence in the utility of these practices, I am induced to invite farmers to try the experiment.

HORTICULTURE.

Second Prize Essay, Horticultural Division.

BY JOHN C. SHORT, OF CLEVES, OHIO.

THE GARDEN.

“Trees of all kinds delicious fruitage spread;
There figs sky-dy'd a purple hue disclose,
Green looks the olive, the pomegranate glows,
There dangling pears exalted scents unfold,
And yellow apples ripen into gold.”—*Pope's Odyssey.*

That horticulture generally is a subject entitled to more consideration, than has heretofore been bestowed upon it by the American people, will, I think, appear from the following reasons: 1. Its capability of almost universal adaptation to the abodes and employments of every family in town or country; for in no part of the union as yet, has land become so scarce as not to afford some little spot to the humblest tenant, susceptible of yielding a garland of flowers—perhaps a basket of vegetables—it may be a harvest of the finest fruits. 2. Because, other circumstances being equal, he who is a good gardener, can easily transform himself into a good farmer—the perfection of a farm consisting in as near a resemblance as possible to a neatly cultivated and productive garden. 3. Many of the great truths of vegetable physiology, discovered in modern days, and which we hope are yet to be unfolded, have been, and will be, originated in the garden; as indeed experiments ought always to be tried upon a small scale. 4. It is in the garden that all new varieties and foreign articles are first introduced and acclimated. The potatoe, now so universally an object of field culture, was for many years after its introduction into Europe, only to be found in the gardens of the curious—European wheat was first grown in Mexico from a very few grains, found by chance, and nursed with assiduous care. It was thus too from small beginnings and fortuitously that the celebrated Sea-island cotton, became the source of so much wealth to the Southern States;* and even at this moment the Aracacha is undergoing a course of experiment in this delightful laboratory. Thus by exciting a taste for horticultural pursuits in the shop-keeper, the professional man, or intelligent mechanic, of crowded cities, scarcely-to-be imagined effects may be produced on the welfare and happiness of the farmer and of mankind. Is the potatoe the only vegetable production of South America, capable of being accommodated to every part of the habitable globe?—so palatable as to become a part of our daily food the whole year round?—of sufficient importance to force itself into the calculations of the statesman, and altering the destiny of a nation? Are there yet no horticultural treasures, that would flourish under our sun, secluded within the gloomy recesses of the Cordillares, in the cold region of Patagonia, along the unfrequented margin of the Columbia, in the unexplored interior of New Holland, or among the patriarchal mountains of Tartary? Even within the limits of the United States, is our own country already so old that nothing new may be hoped for? In every climate, the gardener and the husbandman, by attention and perseverance, add new features to the landscape, and renovate at their will, the aspect of the country around them. 5. “The pot herbs of lucre, and the barren double flowers of vanity” may excite the cynic's snarl, yet the moral influence of horticulture on society is worthy of regard. On this subject, a distinguished writer of the last century,† thus expresses himself: “Other fine arts may be perverted to excite irregular, and even vicious, emotions: but gardening, which inspires the purest and most refined pleasures, cannot fail to promote every good affection. The gaiety and harmony of mind it produceth, inclining the spectator to communicate his satisfaction to others, and to make them happy as he is himself, tend naturally to establish in him a habit of humanity and benevolence. It is not easy to suppress a certain degree of enthusiasm, when we reflect upon the advantages of gardening with respect to virtuous education.” These reasons might be multiplied and enlarged upon. I pass them over however, and hasten to the subject, which is treated as practically as possible, (in accordance with the wish of the editor,) and also with the brevity of an essay.

Of the *Location* of a garden, little need here be said, for many have but one choice (that, to wit, of the old Cambridge carrier, Hobson,) and I will not mar their incipient delight by pointing out its defects, and depicting the *beau ideal* of a perfect spot. There are few such, if any, in this world. The wish of the writer is rather to incite every one to the careful cultivation of whatever area he may command—whether that be on the naked top of the bleakest mountain, amidst the smoke of the populous city, on ‘the russet dreary moor,’ or along the expansive plain of some fertilizing stream. Generally speaking, however, where the choice can be made, it is of consequence if possible to have a southern aspect for early crops, for a hot bed ground and plants that are natives of the south—and also a northern inclination for vegetables and flowers, impatient of too hot a sun. These two contrary exposures, are sometimes, but rarely to be met with on the same ground, or ground sufficiently contiguous to be taken within the same inclosure. They are more frequently obtained by the artificial means of walls, fences and hedges. The inhabitants of towns, by availing themselves of the shelter which their numerous houses afford, enjoy in this respect an advantage over the farmer, who has seldom such a variety of buildings to make use of—walls, however, even he can command by a judicious location of his out-houses, or by building them expressly for the purpose, if he is able and disposed to incur the expense. This advice with regard to a northern aspect is contrary to that of Cobbett, who in the thirteenth paragraph of his American Gardener says, “by all means avoid an inclination to the north”—and this dictum has been copied by compilers after him. It may be good policy for gardeners in the north eastern states to listen to such instruction, but for those “south of the Potomac,” I am very well convinced that a northern exposure is essential for growing many sorts of vegetables—Mr. Cobbett himself in his thirty-sixth paragraph, when speaking of the form of his garden, an *oblong square*, acknowledges the importance, even in Long Island, of such an aspect: “This gives me a long fence on the north side and also on the south side. The former gives me a fine warm extensive border in the spring, and the latter a border equally extensive and *as cool as I can get it in the heat of summer*. Again, in reference to the choice of ground and its extent, it is not only necessary to consult the “genius of the place,” but also to interrogate the purse, much more labour being requisite on one piece than on another. With regard to situation too, where it is possible to procure a fine view of the adjacent country, always so to dispose the garden, or some part of it, as to command the desired scenery—such a view being more desirable from the garden than from the dwelling house itself. Much more might be said on this subject of location, if the old mode of treating the subject, by calling one section a *kitchen*, and another a *pleasure garden*, were adhered to—but it is intended to make no such distinction; on the contrary, to combine as much as possible, the useful with the agreeable. Were I to attempt to dictate to what particular use the garden should be applied, I might tread on disputable ground. It is better, therefore, that every occupant should consult his own will as to what crops he may choose to grow;—one word only I will say on this subject, which is, that where the area is limited, it appears to me to accord better with the ideas of a garden, to confine its products to the earlier and more delicate vegetables—to fruits and flowers—rather than to endeavour to cultivate *every thing*. Let the more common vegetables, pumpkins, *squashes*, potatoes, &c. be bought in the market place, or reared in what the farmer calls a *truck patch*. Crowd not too much in a small space—fearful of corruption and degeneracy. Every body now knows, what perhaps it cost botanist centuries to learn, that the flavour of the finest water-melon, will be destroyed by the vicinity of a gourd vine.

Having selected the spot, the next things to be attended to are *inclosure* and *laying-off*. With regard to the division of the ground into walks and plats, or in other words *laying-off*, it must be left to the *taste* of the occupant, and as this is a subject which long ago we have been forbidden to dispute about, it will be decided entirely by the owner, whether his walks shall be straight or serpentine?—whether the angles shall be obtuse, right-angled, or curvilinear? These and incidental ones, may be questions of some hesitancy in a large, expensive, and fashionable concern; but in smaller establishments, incapable of much variety, I am decidedly in favour of the rectilinear and regular arrangement. It is said, by the author above quoted, that “a small garden, which admits not grandeur, ought to be strictly regular”—and it appears to be in accordance with his view of the subject, and indeed the suggestions of common sense, that generally speaking, in the disposition of a large space of ground, nature should be followed in her irregular and uncontrolled varieties, while, on the other hand, we must give to a small garden one expression of regularity, gaiety, sweetness, or it may be of gloom. For real utility, in fact, I cannot imagine that there can be much improvement on the plan recommended by Cobbett in his American Gardener, paragraph fifty-seven, &c. The only objection I have to it is, that his plats are too small for the farmer desirous of ploughing them up, instead of spading—this fault will not be found, however, by a great many, for in most small gardens a plough is never used.

It is astonishing that in his work, which is certainly a most useful one, Cobbett should have said nothing about *edging*. The boundary between the walks and the cultivated ground is the edging, and I know of no part of the garden, which requires more care, which gives a more disgusting look of slovenliness if neglected, or of neatness if well attended to. It is in horticulture what the beard is to the face. Of what then shall this *edging* consist? There evidently must be some barrier between the loose cultivatable earth of the plat and the coarse gravel, stone, sand, or other material of which the walk is composed, otherwise these different articles will be constantly mixing and encroaching one upon another.—Now, if any person should choose to pave his walks with brick, it would be necessary to have the sides of such pavement protected by *curbing* of some sort. This *curbing* then, if raised a little higher than what is absolutely necessary for the pavement, would be the *edging* we are speaking of—such nearly as I am about to recommend. It is unnecessary for me to name any of the border-plants said to be suitable for this purpose. In Loudon's Encyclopædia of Gardening, and in McMahon's work, many are enumerated, none of which I would employ alone, but prefer boards (or plank) from one and a half to two inches thick, as broad as necessary, and as long as may be. These must be sunk partly in the ground, be square and straight on the top and neatly put up. Here then is an immovable division, a boundary line between the walks and the plats, about which there can be no disputing, be the guardian fairies of these territories ever so litigous. If any one should object to these boards as being too dull and uniform, and still prefer a border of living plants, I would request him, nevertheless, to let the boards remain and plant alongside of them, whichever of the shrubs mentioned in Loudon may be preferred. These, will in a great degree, overhang and conceal the wood work. For my part, the *simplex munditiis* being with me all in all in a garden, I would not wish to hide these useful boards, "provided always," that they were well put up, accurately squared at their corners, and handled in a neat and workmanlike manner. If planed before hand, seasoned and thickly coated with oil and Spanish brown, they will last so much the longer; and in this case, the upper edge being painted white, will make them appear more lively. Yet, if border plants must be used, of all others for this purpose I would, especially if I lived in a town and had a horse or cow to feed, choose lucerne—than which nothing will shoot up earlier in the spring—few things are more beautiful, nor any thing which so soon repairs trespasses made upon it with the knife or scythe. They must have been lucerne pastures which Virgil so charmingly describes:

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* American Farmer, vol. 12, p. 335.

† Author of *Elements of Criticism.*

> "non gramina desunt
> Et quantum longis carpent armenta diebus,
> Exiquâ tantum gelidus ros nocte reponet."[*]

A garden of Cobbettian dimensions, thus edged around with lucerne, would afford a daily mess of green food, during seven months in the year, for two horses and a cow. I would not be understood, however, especially where no forage is wanted, as totally proscribing those old plants, which have had a place in gardens for so many years, as box, thrift, &c. They are eminently beautiful when kept in order, but they are not compact enough of themselves to form a total separation between the walk and plat; nor will they answer like boards for upholding the walks, or the material of which the walk is made. Of all such materials, I should prefer broken stone. In other words, I would M'Adamize these roads. Now the boards, or some sort of curbing, are necessary to keep up this stone carpet, and prevent its wearing or crumbling away at the sides. The only objection that can be made to the boards, for this purpose, is that they will decay. But to those who live in a wooded country, this is a consideration of not much value. But if it should be taken into account, let the curbing or the edging (whichever you please to call it,) be made at once of stone, brick or tile. I must now say a word or two with regard to Macadamized walks. I contend that nothing is superior for this purpose, because it is acknowledged that nothing is superior for turnpikes; and what is a garden walk, if well made, but a little turnpike? Two or three inches of *metal*, perhaps less, will be sufficient for this purpose, where the earthy substratum is firm. This substratum can be made convex, concave, or perfectly level and plane, as the gardener may choose, before the pounded stone is put on. There should, however, be a proper graduation for carrying off the surplus waters of violent rains. The *metal*, or pounded stone, should be well and repeatedly rolled, with a heavy roller, and after the fragments have become firmly united at their angles, kept clean with the broom. I can think of nothing better for walks. Pebbles and gravel, as they cannot be made compact, will suffer grass and weeds to grow among them;—these will even flourish in a brick pavement. Tan bark, saw dust and sand, are all alike objectionable; and as for grass, it is absolutely inadmissible in a well kept garden, unless in a plat by itself and perfectly detached from the worked ground. The poets talk of *velvet walks*, &c. by which I suppose they mean grass walks;—very pretty in verse, but as a matter-of-fact affair, no weed is more enterprising or annoying in its habits than this *velvet stuff*, when it gets where it should not be. Nor can a person in bad health venture upon these grass roads after a heavy shower of rain, in the mornings or evenings, which happen to be the most interesting times for visiting a garden. Therefore as, in Mr. Loudon's words, "one great requisite of a walk is that it should be always dry," commend me to the firm and clean M'Adam.

Here, then, are the walks made, and the edging formed; in other words the garden is *laid out*. We will now recur to the necessary subject of inclosure, which might have been spoken of first. Fencing, as practised in America, has been called the "fretting leprosy" of the farmer, who makes unsightly wooden fences, constantly decaying, the cause of perpetual irritation and loss. It must not be so with the gardener—the fortifying his little domain must itself be a source of pleasure, and the barriers themselves ornamental. Let the garden, if no other place affords it, be the abode of serenity and peace, of subdued excitability, the asylum of affections social and divine. Be its toils a recreation, and its cares magically transmuted into pleasures, for there "ye shall rejoice in all that ye put your hand unto." Indeed it is observable, that while the efforts and speculations of the agriulturist, his "unchanging labour, and uncertain gains," bind him to the earth, and embroil him in a vortex of unceasing anxiety—the milder excitements of the garden are favourable to devotion, to study, health, and abstract speculation. These sensations suggest themselves to the amateur even in the cheerlessness of winter or during the peltings of the storm. "As it is good to be provided with work for rainy days, winter industry is the best cheerer for winter gloom, and the fire-side contrivances, for summer use, bring summer sunshine and a genial inner warmth, which the friendly hearth blaze may conspire with, but cannot bestow or compensate."[*]

Of all the various sorts of inclosing contrivances I am decidedly in favour of the hedge, and give it the preference—one thing would puzzle me were I about to enclose a beautiful spot, and wished to have every thing in keeping with its beauty; that is, among the numerous materials for a hedge I should be hesitating long which to choose—the verdant holly would present claims too *strong* and *pointed* to be disregarded, the English hawthorn would induce a train of associations altogether irresitable, who could gaze upon the blushing pyracantha and heed it not, or be so stupid as not to think himself in some *el dorado* region, if encircled by the golden-fruited McClura? But more fragrant yet than any, is the wild crab-apple—and perhaps more splendid, "than this, than these, than all" is the Rowand rose (*Rosa lævigata*) of the Southern States, of which the late lamented Elliott thus speaks: "In our rural economy this plant will one day become very important. For the purpose of forming hedges, there is perhaps no plant which unites so many advantages. For quickness of growth, facility of culture, strength, durability, and beauty, it has perhaps no rival."[†]

It will occur to every intelligent person, that the soil of his garden should be made as loose and friable as possible, consistent with fertility, which will be done by the addition of lime, sand or wood-ashes, to lands too stiff and heavy, and by exposing them, as broken and rough as possible, to the action of the winter's frost. While, on the other hand, should the ground be too dry and arenaceous, a proper consistency is to be given to it by a due proportion of marl or clay. Of stimulating manures, and those daily augmenting in the vast store house of nature, the young gardener will soon learn the use and necessity.

I believe it may be laid down as an axiom in gardening, that the quicker the healthful growth of all esculent vegetables, the more palatable they are. Hence the necessity of accelerating this process by every proper means, by the carefulest and most unremitting cultivation, by saturating the earth with nourishing juices and a due *exhibition* of moisture. In the greater part of the United States, summer droughts, and, what is perhaps yet worse, spring droughts, are so frequent, that a provision of water seems absolutely indispensible to the well-being and freshness of a garden. Careful cultivation no doubt does much;—a "bright ploughshare" is the farmer's substitute for a shower; but nothing can flourish without water in the vegetable world. Happy is that horticulturist, "the happiest of his kind," who has an abundant supply of this article always at his command. I do not mean that it may be wasted in *jets d eau*, or other artificial and expensive contrivances, but that the salient stream may be always at hand to correct the inequalities of a variable and uncertain climate—to pour a tide of verdure over the arid soil. Where this element does not present itself naturally, I would by all means advise artificial reservoirs or cisterns to be constructed for its preservation. Nothing can add more to the joyous and festive appearance of a garden than a fountain of clear water and a small stream bubbling along its limits. Should this be diverted into yet smaller rivulets, by means of a channel made of stone or brick, and encrusted over with water-lime, its freshness can be carried, perhaps, to every part of the inclosure.

Of all considerations connected with horticulture, climate is the most important. It is like the blue lion which lurked in the alembics of the poor alchymist of former days, permitting the enthusiast to approach so far, but no farther. It destroys in a few hours, the labours, the anxious watchings of years. In one night, every thing is changed. With regard to soil, in so small a space as most gardens expand over, it is frequently made at no great expense, altogether artificial. To modify, however, the aspect of the heavens, and mitigate the angry influence of the atmosphere, even in a small degree, is a work of cost, of ingenuity and frequently of vain endeavors. This is more particularly the case in the middle than in the higher or lower latitudes—in regions "where winter lingers in the lap of spring," than where he suddenly departs or never appears. In northern climates, the earth and all things that repose on its slumbering bosom, are, during the intensity of winter, protected by a blanket of snow. The bitterest cold prevails, but it sweeps its desolating blasts over regions protected by snow. This remains on the ground until a sudden spring bursts out—the snow is melted and vegetation rapidly advances. This is the season for activity on the part of the hyperborean gardener. A very few months bring forth and ripen his fruits. Vegetable nature seems in haste to secure her treasures before the quick return of frost. The chilling blast soon succeeds, the gloom of winter, dispels the short-lived verdure of the field, and every thing again is mantled over with a protecting fleece. Such are the wilds

> "Where dull Mæotis sleeps, and hardly flows
> The freezing Tanais through a waste of snows."

In the south, on the contrary, there is a perpetual verdure, and a constant harvest—"blossoms and fruits and flowers together rise." The vegetable kingdom abounds in evergreens, in spicy and aromatic fruits, in

> "Herbs and potent trees, and drops of balm,
> Rich with the genial influence of the sun."

The ever teeming earth is constantly prolific, and only guarding against the fiery influence of the atmosphere, the swarthy gardener, with a seed time and a harvest always before him, has little else to do, but to select from the rich bounties of Providence.

In speaking of the various writers on horticulture, Loudon, when he mentions Cobbett's work on American Gardening, observes, that from this book it may be gathered, "that horticulture in America is but in its infancy, and *from the climate must ever have great obstacles to contend with.*" How this latter part of the deduction can be inferred from Cobbett's work, I am at a loss to conjecture, for if I mistake not, he is constantly praising the climate, especially our *sunshine*. Loudon has gleaned this inference, however, in spite of the author, and has showed himself in this, as in other instances, perhaps the most accomplished horticulturist of the age. For it cannot be denied that we have a most unmanageable climate, (I speak as a citizen of one of the middle states) yet the yankee stamina of our constitution, will, I have no doubt, overcome this formidable obstacle—as our Franklin "disarmed the lightning of its terrors." It has for sometime been the popular opinion, that the climate of the U. States would gradually become milder in proportion as the vast forests of the west and north were cleared away. This idea is maintained in William's History of Vermont; and illustrated by some experiments—the subject however is too ample for human experiments, and will remain perhaps for some time a disputed question—a late writer in Silliman's Journal maintains that this melioration of climate does not take place, and that we may expect colder weather than we yet have had; the late winter appears to have powerfully supported the argument of this writer. That the removal of our forests is one cause of the frequent droughts which occur, is I believe generally admitted.

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[*] "There, as thy flocks slow wind along the vale,
No blade shall wither, and no fountain fail.
Cool dews restore beneath night's transient hours
All that thy herd each live-long day devours."
Sotheby.

[*] Coleridge's Aids to Reflection, p. 366.

[†] Elliott's Botany, I. 567.

It was intended that some observations on the works of American Gardeners should have concluded this essay. Deeming such considerations however as more properly belonging to the province of the critical reviewer, the writer has postponed them,—offering the study of such volumes, however imperfect they may be, as a certain antidote to all ailments incurred in the struggle.

———"For wealth or power—
The passions and the cares which wither life
And waste its little hour"——

PEACH TREES, GRAPE VINES, &c.

Friend Smith: *Beaverdam, Va. 1st mo. 30th*, 1832.

I remember seeing a statement in the Farmer by a correspondent from Ohio, some years ago, that when the thermometer stands at 5° below zero, the embryo blossoms of the peach tree will be destroyed. The spell of weather we experienced a few days ago, more severe than any I have ever witnessed, has recalled this statement to mind. On the 27th of this month, the mercury stood at 8° below zero; and a friend living about ten miles distant says that his thermometer was 4° lower. I have carefully examined the peach trees, and as far as I can judge, I can discover no appearance of life in the young blossoms: so that there is no prospect we shall enjoy that delicious fruit during the next season. The same cause will also doubtless prevent our raising a crop of grapes, for unless we have hardy natives or have well protected the foreign vine, all the bearing wood must be completely destroyed. Indeed the cold weather of last month was exceedingly destructive to the foreign vine, except in some few cases. I now find that even the Bland Madeira is killed, which has generally been considered very hardy, and by some, thought to be a native. The Isabella has not fared much better. The Catawba is less injured and may show some fruit. These melancholy facts may be readily ascertained by an examination of the buds or eyes of the vine, which may be made by cutting the bud crosswise with a sharp knife, unless they exhibit a fresh green appearance, they are certainly destroyed. The blossom of the peach, apricot, nectarine, &c. may be examined in the same way. On large water courses, and in cities, however, it is probable that these results may not be so fatal. I would respectfully suggest that those who are acquainted with any cheap and efficacious means of protecting the vine from the effects of frost, should communicate their knowledge through the medium of the Farmer, which I have no doubt would be highly gratifying to the lovers of such a delicate fruit as the grape. P.

Why do many persons become sleepy after eating lettuce?

Because it contains a milky juice, which like opium is a narcotic.

(For the American Farmer.)

THE OSAGE ORANGE.

Cayuga county, N. Y. 12 *mo.* 15, 1831.

The visiting committee of the Pennsylvania Horticultural Society has said in its report of 1830, that the Osage Orange "retains its lucid foliage *longer* than any other *deciduous* tree." Two years ago I procured one of these plants at Prince's; and in the past season, it made one shoot more than six feet in length. Though apparently in perfect health and vigour, it has not been remarkable for retaining its foliage; but on the contrary it dropped all its leaves before the commencement of severe frosts, even at a time when those of the peach, the apple, the *Chinese* quince, the Abele tree, and many other trees and shrubs, were still fresh and green.

By this remark, I have no design to place myself in opposition to that respectable committee, but to ask whether this difference of habit is to be ascribed to the difference of three degrees of latitude? Some shrubs which are evergreen in the Southern States becomes deciduous in our colder climate; and I consider it a favorable indication to see such prepare for winter by forming good buds and dropping their leaves in good season.

D. T.

RURAL ECONOMY.

INSTRUCTIONS FOR FISHERMEN,

By Col. James Fenwick, late of Pomonkey, Charles County, Maryland, written in 1823, *and found amongst his papers.*

(Concluded from page 366.)

CLEARING PLACES FOR SEINE-HAULING, PUTTING UP FISH, TIDES, CHANGES AND FULL OF MOON, &c.

As some attempts are yearly making to clear new places for *seine-hauling*, it may not be improper to say a little upon the subject of clearing out obstructions, such as logs, trees and stones with which the bottoms of rivers are every where interspersed, unless where they have been removed for the purpose of seine-hauling. A new seine made of the strongest kinds of twine with rigging lines and hauling ropes larger and stronger than ordinary, will do much towards clearing away those obstructions, but will not do entirely: some trees are of too great size and have some part too firmly fixed in the earth, and some stones are too large and heavy, to have their resistance overcome by any force that can be made to act upon them by means of the seine. In such cases, the fishermen must have recourse to other contrivances and to such implements as are best adapted to attain the object. Two kinds of instruments are in use for the removing of trees, the one called the *ragged-wedge* and the other the *screw*. I think the screw is to be preferred, because one *socket staff*, with which it is to be sunk to the tree, by being made long enough to suit the greatest depth of water, will suit any of the lesser depths of the water, by having holes bored through it at different heights, through which to run the *cross stick* for the purpose of turning it to work the screw into the wood; whereas, a staff for the wedge, by being long enough for the deepest water, becomes too long for water to a certain degree shallower, as it must be driven into the tree by forcibly striking upon its top, which a man cannot well do in a boat, unless it be of a suitable height, for which reason it is necessary to have several of those staffs of different lengths, and to make trial of which will suit before the wedge can be let down, all of which is troublesome and loses time.

A kind of *tongs*, made of the strongest bars of iron, capable of opening wide and grasping with its curved legs, (two or three of which it has on both sides) is used to *remove stones*. A gentleman of my neighbourhood has a pair of those tongs, which have taken up stones of an enormous weight.

Upon the *curing of fish*, I can say little or nothing, but what is as generally well known to others as to myself. I will only state an experiment I have made with tolerable success in curing that difficult species of herrings known among fishermen by the appellation of the *tight scaled* herring or *tight jackets*, the scales of which adhere so firmly, as to form a coat of mail, as it were, impenetrable to the particles of salt, and consequently, very difficult to cure. It is true, that the safest way would be to *trim off the head* and *belly* before salting, but as few fishermen have it in their power to do this to any great extent, the next best method is, immediately after they are well salted, taking care to *stir them* about considerably with the view to scale them as much as possible; and also, taking care to put the greater proportion of *salt towards the top* of the cask and to pour into the cask, (a rum hogshead for example) about one bushel of the *strongest* brine. This process will always succeed, unless under very unfavorable circumstances, such as very warm weather or the fish having remained too long after being dead. The best cured fish are always those that are taken alive from the seine and immediately as fishermen say, "struck away."

The great inequalities and apparent *irregularities of the tides*, cannot fail to have struck every fisherman with surprise, and no doubt, many of them, like myself, have often sustained loss and damage, arising from miscalculations upon the tides. It is true, we are so favored by Providence in the upper parts of the fishing waters of the Potomac, in having the times of *high water* so near about the times of the *rising* and the *setting* of the moon, that with an *almanac*, a good *watch* and attentions to the *motions* of the seine in the last hauls, those, who haul with short seines and short ropes, must be careless indeed if they mistake; but the case is very different with those, who, like myself, have to haul with very long seines and ropes. The time which it necessarily takes us to make a haul, is so long, it often happens, that we cannot, either from the motion of our seines or any other circumstance, form a judgment sufficiently accurate of the duration of the tide, as to decide whether we have time enough to make another haul or not. In this state of uncertainty, by waiting until there is a decided turn of the tide, we risk losing a haul, which, in critical cases, might have been very valuable; or if we put out our seines, we risk their being overtaken by a contrary tide, and thereby perhaps, incur a still greater loss; and when there is superadded that the tides from the operations of various causes, are subject to run much longer or stop much short of what might be calculated from preceding observations, the perplexity often becomes very great and mistakes not unfrequent. We know that the *three principal causes* which operate upon the waters and produce what are called tides, are the *moon*, the *sun* (as respects particularly the Potomac river at least) the *winds*. The effects produced, will be in proportion as these influences are combined with, or counteract each other. The *irregularities* in the tides being then produced by several causes and the exceptions being so numerous, general rules must be admitted with great caution. That about the *full* and the *change* of the *moon* we have high tides, and at the intermediate quarters, low tides. That strong *west winds*, particularly the north west, make *low tides*, and strong winds from the *east, high tides*, may be considered as general rules; yet, liable to considerable exceptions, because these several influences often counteract each other.

In order to assist the judgment in forming a correct decision in the perplexing case I mention, I will observe, that there is a particular relative situation of the moon (perhaps not generally known to fishermen,) which sometimes produces an apparent irregularity in the tides and apparent exceptions to what may be deemed the general rules. It is this:—almost every common almanac marks the time when the *moon is in perigee* or *apogee.* When the moon is in perigee, or in that part of her orbit nearest the earth, she sensibly *increases the tides;* so that when the moon is marked to be in perigee, we may always calculate upon a flood tide to run longer and the ebb tide to end sooner, than the other circumstances of the case would seem to forewarn; and the contrary will take place when the moon is in apogee, or that part of her orbit furthest from the earth. But it is to be noted, that these effects of the perigee and apogee of the moon are not felt by us in their *greatest* force until the second or the third day after the times marked in the almanacs. So, likewise, we do not feel the effects of the *full* and the *change* of the moon, in their *greatest* force, until about the same lapse of time, after the times marked in the almanacs. Although a knowledge of the tides may aid the judgment, yet the fisherman must place his chief dependance, to avoid mistakes in the tides, upon his own attentive observations and inferences to be drawn from the motion of the seine. That the *fishing business* is not only a difficult art, but extremely hazardous in point of profit, when unskilful men embark in it, is too often verified. It requires a considerable stock of a certain kind of practical knowledge, to be acquired only by a long series of observations and experiments. The fisherman must be able to make an accurate estimation of the power with which the various stages of the various tides, differing essentially in their degrees of force, will act upon his seine, together with the effects which will be produced by the winds, when combined with or opposed to the current; and he must know how to vary his measures accordingly. He must possess a complete knowledge of the relative periods and power of the different *eddies*, or in-shore currents, peculiar to his particular water. In short, without good judgment in all these cases, and an infinity of other observations stored up in his mind, he will be continually committing ruinous blunders, and perhaps without being sensible of it.

The *experienced fishermen* need not be reminded of the great importance of having their *fishing apparatus* strong and in good order, nor of the great hazard they run in trusting too far to *weak seines* and *ropes*, nor of the utility of being amply provided with all those minor implements which contribute to the expedition of their business. Yet I will remind them of one thing, the importance of which I do not think is generally sufficiently considered:—I mean the great importance of having *boats* of the best construction for rapid movements. If a boat is tedious in delivering out the seine and moving thence to the shore, it becomes next to impossible, in many cases, to preserve the seine in the *proper form* best adapted to gather the greatest possible quantity of fish. This difficulty is in proportion to the rapidity of the current and the roughness of the water. The difference in the taking of fish, when a seine is *hauled in the proper form*, or otherwise, is far beyond what inexperienced persons are aware of; for there are times when fish are passing in such orderly and equable successions, that a skilful fisherman may predict very nearly the number of his haul, from the line of progression and the altitude (if I may so express it,) which his seine has preserved. It is at those times that it is plainly to be distinguished how a seemingly small accident, or blunder, will render a haul nought, which there was a moral certainty would have been valuable, without the derangement of the proper system of the haul occasioned by such accident or blunder. There is no one cause so prone to produce these derangements as an ill constructed and slow motioned boat. The utmost skill of the fisherman can but partially remedy the evil, under the most favourable circumstances of a gentle current and moderate weather, but in the rapid stages of the tides, or blowing weather, his labour will be fruitless.

Nothing better promotes health than temperance and exercise.

APPLE BUTTER.

Mr. Smith: *Lancaster, Pa. Feb. 2nd,* 1832.

Seeing a request in your valuable Farmer, (p. 327, vol. 13.) from "Cousin Tabitha," wishing to know the process of *making and preserving apple butter,* having myself been indebted to her for some valuable receipts through the Farmer, and seeing no one noticing her request, if I can make myself understood I will endeavour to inform her of the method practised in this county, where hundreds of barrels of cider are annually manufactured into apple butter.

Although medical men exclaim against the use of copper utensils as dangerous, yet the practice of employing copper kettles is I believe general and without any apparent ill effects.

The common practice is to make use of a boiler containing a barrel, or thirty-two to four gallons, and boiling the cider until full one third is evaporated, then to add a part of the apples, pared, cored and quartered, and immediately commence stiring the mass without intermission, until the whole is completed,—adding the remainder of the apples from time to time, as fast as the process permits space.

Some vary the process, and boil the whole of the cider for ten or fifteen minutes, carefully removing the scum as it rises, then take out the half of the cider, and add the whole of the apples at once, and afterwards filling in the cider, as ebulition reduces the mass; this though more troublesome, is the preferable way. It is necessary to keep stirring continually with a wooden implement in the form of an L (the shorter part 2½ feet long, by 3 inches broad and full of holes, the other, or handle, 6 to 8 feet long,) to prevent the apples from attaching to the sides and bottom of the boiler, which would considerably injure the butter.

To one barrel of cider, one and a half to two bushels of apples, (measured after being pared and cored,) is allowed, and the boiling continues from fourteen to sixteen hours,—the produce when completed, from six to eight gallons of apple butter,—preserved in earthen crocks or pots, kept carefully covered, and if the boiling has been sufficient, will keep any length of time,—when the whole is prepared from *sweet apples* the butter is much superior.

I can bear witness to "C. T's" receipt for making *sour kraut*, it is the same that is practised by the farmers of Lancaster county. Probatum est.

Yours, &c. Tycho Brahe.

(From the Philadelphia Journal of Pharmacy.)

EXTRACTION OF SUGAR FROM THE SECKEL PEAR.

(Concluded from page 374.)

It may be inferred from the above experiments, that the difficulty experienced by Mr. Brasier in crystallizing his syrup of Seckel pear, was owing principally to a peculiar mucous substance which he did not separate sufficiently by the process he followed in his operation, and which rendered his syrup viscous and ropy. The syrup made in 1830, evidently contained a much greater portion of this mucilage than the other, and was besides, as we learned, submitted to a very protracted action of heat, which is known to deprive solutions of sugar of the property of crystallizing. We have hardly any doubt that a better process than that resorted to by Mr. Brasier may be applied to the manufacture of sugar, from the Seckel pear, and we are disposed to think that the employment of the sub-acetate of lead, instead of lime, for precipitating the vegetable, mucous, and colouring principle, will obtain the desired object. This means has already been proposed for the purification of cane and beet sugar, but as the salts of lead combine with sugar, and are separated from it with difficulty, it was abandoned. However, it is asserted in the Dictionaire des Drogues, that some manufacturers have succeeded in this desideratum, and that this method will, before long, produce a great revolution in the art of sugar refining.

Now the question is, whether the manufacture of sugar from the Seckel pear may become an object of industry and of advantage to the country. The solution of this important question is yet beyond our reach; our data, in reference to this point, are altogether insufficient, as we have no means of establishing a comparison between the quantity of sugar that two similar portions of land might afford, if cultivated, one with sugar cane, and the other with Seckel pear trees, nor between the relative costs of cultivation and manipulation. However, if we compare the richness of the juices of sugar canes, beet roots and Seckel pears, we will find that the last possess a great superiority over the others. According to Mr. Gillmer (Dictionaire des Drogues,) Mr. Archard, a distinguished chemist, and a manufacture of beet sugar, obtains 4 to 4½ per cent of sugar from the juice of red beets. Edwards, in his history of the West Indies, relates that the average quantity of sugar obtained from the juice of the cane, is about 10 per cent; now Mr. Brasier tells us that one gallon, or 8lbs. of Seckel pear juice yields 2 lbs. of liquid sugar, that is, 24 ounces of dry sugar[*] or 18.75 per cent, about twice as much as the juice of the cane. Thus, if the assertion of Mr. B. be correct, which we confidently believe, a Seckel pear tree, producing four bushels of pears of 60 lbs. to the bushel, would yield three-fourths their weight of juice, or 180 lbs., which would produce 34 lbs. of dry sugar; and one acre of ground, planted with 100 Seckel pear trees, each producing 4 bushels of fruit, will yield 3400 lbs. of dry sugar,[†] without preventing the soil, from affording other agricultural products.

The genus Pyrus (pear tree) belongs to the class Icosandria, order Pentagynia of the artificial system of Linnæus, and to the family Rosaceæ of the natural order. It was divided by Linnæus in three divisions; the Pyrus proper, *P. malus* and *P. Cydonia.* Persoon has separated the latter from the genus Pyrus, and formed a new genus under the name of Cydonia. From five spieces of Pyrus described by Persoon, the *P. communis* is the only one bearing fruit, which, by cultivation, are susceptible of becoming eatable.

In the natural state, the pear tree acquires considerable dimensions, and its branches are frequently terminated by long, straight and hard prickles; its fruits is acerb, hard and its flesh granular. This single species has, by cultivation, produced a great number of varieties, which are propagated by grafting, and distinguished by difference in shape, size and colour, and especially by the taste of the fruit. Tournefort arranged these different varieties into three different classes; the Summer, the Autumnal, and the Winter pears. The pear which is the subject of this report, belongs to the second class. It is known by the name of Spicy, Musk, or Runsett pear, and is called by the French, *Rousselett de Rheims.*

The Seckel pear derives its name from a gentleman of this city, who, it seems, was the first who paid particular attention to the fruit, and to spreading the tree among his friends and the public. However, Dr. D. Hossack, in an accout of the Seckel pear, which was published in the third volume of the Transactions of the Horticultural Society of London, asserts, on the authority of a respectable friend, that seventy-two years ago, this pear was grown in the neighbourhood of this city, by a person by the name of Jacob Weiss, who had obtained the tree at a settlement of Swedes, which was early established in the vicinity of Philadelphia, and that most probably Mr. Weiss and the father or grand-father of Mr. Seckel were intimate, as both families were Germans, and of that rank in society which might be likely to lead to such an acquaintance. The conjecture therefore is, that under such circumstances, Mr. Seckel's family obtained grafts from Mr. Weiss's tree; however this may be, Mr. Seckel deserves the credit of having propagated this delightful fruit, and of having paid the greatest attention to the cultivation and melioration of the tree.

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[*] 1 lb. sugar, made up in syrup, gives one pint of the latter, weighing 1 lb. 5 oz. avoirdupois.

[†] Each face of a square acre, containing 4840 square yards, is 69.6 yards long, or 208 feet. By leaving 14 feet free from the edge of each of the faces of the square acre, to the first row of trees, and planting the trees at 20 feet distance from each other, it is found that one square acre will contain ten rows, of ten trees each.

That the Seckel pear tree is a native variety of the neighbourhood of Philadelphia is incontestible, from the circumstance that it is hardly known out of the vicinity of the city, and because, it has never been described by European horticulturists, except from the descriptions of our own authors, and as having been procured from this vicinity. These are already several sub-varieties, differing in size, colour and taste.

It is thus described by Mr. Coxe, in his work on the fruit trees, published in this city in 1817. "The fruit is generally small, round at the blossom end, diminishing with a gentle swell towards the stem, which is rather short and thick; the skin is sometimes yellow, with a bright cheek, and smooth; at other times it is a pefect russet without any blush; the flesh is melting, juicy, and most exquisitely and delicately flavoured. The time of ripening is from the end of August to the middle of October. The tree is singularly vigorous and beautiful, of great regularity of growth and rich in foliage, very hardy, possessing all the characteristics of a new variety, and as a native tree, it is but little affected by that species of blight, commonly called fire blight, which in this country, destroys so many pear trees of the imported varieties." A good representation of this fruit, copied from a drawing executed by Mr. Coxe's daughther, has been appended to the account given by Dr. D. Hossack, and published in the Transactions of the London Horticultural Society.

The Seckel pear tree may be cultivated, and will flourish, on almost any species of soil; it should always be grafted or inoculated on the wild pear tree, as grafting on the quince tree subjects it to the same diseases with which this tree is generally affected in this country. It should be four or five years old when planted in the orchard, and each tree at a distance of from eighteen to twenty-five feet. Many horticulturists whom we have consulted, prefer the smallest distance or twenty feet at most, as by this method the trees protect each other from the wind, frost, sun beams, &c.

It bears fruit at from five to six years old; at that age the product is trifling, but from eight to twelve years, it increases considerably; when fifteen years old they are in full bearing, increasing however, until they are twenty-five. Their average product, from fifteen to twenty-five or thirty years old, is variously reported, and there is generally one good and one bad year. The minimum product seems to be an average, four bushels of fruit.

It acquires considerable size, and lives forty, fifty, and as long as sixty years. The general experience is that it is very little subject to the diseases afflicting other trees, more easy to cultivate, and bearing generally more fruit than any other.

Your committee have thus given as succinct an account as practicable to do justice to the subject, although they have extended their report far beyond the limits they had originally prescribed; yet they would do injustice to Mr. Brasier, as well as to their own feelings, if in concluding the report, they omitted to say, that they consider him entitled to great praise for the talents, perseverance and ingenuity he has evinced in the prosecution of the experiments, the results of which they have been examining, as well as those which have enabled him to saccharify *directly*, rye, and other kinds of grain, the sweet and common potatoe, and other vegetable substances containing fecula, by means of the combined action of heat and water, acidulated by sulphuric acid, and afterwards to convert the liquid sugar thus obtained into alcohol; and cannot but believe that the ultimate results of them will prove highly important to the country.

E. Durand.
Jos. Scattergood.

THE FARMER.

Baltimore, Friday, Feb. 10, 1832.

Col. Fenwick's Instructions to Fishermen are concluded in the present number. The essay breaks off somewhat abruptly, and hence it is concluded by Mr. Brent, (who politely furnished the manuscript,) that its completion was prevented by the death of the much lamented author. Those interested in seine fishing, however, will be able to glean much useful instruction from the essay, and will join us, we doubt not, in regretting the calamity that has deprived them of a complete system.

Grape Seed—American Wine. We announced, a week or two ago, that we had received from Mr. Herbemont, of South Carolina, a quantity of grape seed for distribution. There are several kinds, to wit:—Herbemont's Madeira, Bland's Madeira, Lenoir, Allen Jones, and Black Muscat. Mr. Herbemont's object is to enable persons, so disposed, to produce new varieties that may be more capable of withstanding the severe vicissitudes of our various climates, than the foreign varieties now cultivated, and possibly of a better quality than our native grapes. Any person can obtain some of all the kinds, or any of them, by applying at the Farmer office. We recommend immediate application, as the sooner the seed is in the ground the better.

Mr. Herbemont has also sent us several kinds of his wine of the vintage of 1830 We do not pretend to much judgment in the quality of wines, but could wish that those who doubt the adaptation of our country to the production of this excellent beverage, could have a glass of Mr. Herbemont's *Palmyra.* To our taste it is as good as the Madeira generally sold at the stores. There are two kinds of wine made from Herbemont's Madeira grape:—the one is similar to the imported Madeira, and this he calls *Palmyra,* (the name of his place,) the other is white wine, being nearly as limpid as water. The latter, of course, is free from the peculiar astringency of colored wine, which is derived from the skin and seed of the grape. To some, such wine is preferable; but epicures generally prefer the true amber. We have also a sample of Mr. H's red wine, the produce of the Lenoir grape, which is very good. These samples are sufficient to convince us, that, with proper management our own vineyards will be able to supply us with wine, ere long, of as good quality as we can desire. Mr. Herbemont is entitled to the thanks of the country for his perseverance in the endeavor to introduce this important article to the attention of American cultivators. It may not be out of place to mention here that Mr. Fitzhugh, of the Bank of Maryland, in South-street, can supply any quantity of the Herbemont Madeira grape vines, of proper age for planting into vineyards, on very reasonable terms. This vine is considered one of the hardiest now known, capable of withstanding any degree of cold or heat, and a sure and abundant bearer. It is, besides, an excellent table grape; and like the seckel pear, will commend itself to the favour of connoisseurs upon acquaintance.

☞ The communications of Dr. Muse on cheat, of "A Farmer," on the culture of wheat, and of Peter Ellis, on bots in horses, will appear next week. On the subjects of cheat and bots, "the war goes bravely on;" but we must call upon those who do not believe in the changing of wheat to cheat, to step forth, for the forces arrayed against them are becoming so formidable that the integrity of their cause requires every man to do his duty.

FOREIGN MARKETS.

Correspondence of the Journal of Commerce.

Liverpool, *Dec.* 31, 1831.

The market is firm fur cotton. Sales to day 2000.

London, *Dec.* 30.

In our corn market little is doing, and the average are very low; no reaction of moment is likely to take place for three or four weeks; clover seed goes on improving; prices from France come high. This article again promises to do well from your side.

Liverpool, *Dec.* 24.

Cotton.—The import during the two weeks has been 19048 bales, of which 15913 were American. The demand for cotton has been regular, but not brisk this week—in prices there is no material alteration, but the dearer kinds of American, have been a little reduced in value, by the placing upon the market, various lots of new uplands, which have been sold at *6d a 6¼d* for good fair to good. So far the new crop has proved bright, clean, and of good staple, and will interfere much with New Orleans, and probably with common Brazil.

In bonded grain and flour, there have been few transactions, sour flour is worth *20s a 21s* and sweet *23s a 24s* per bbl. and good western wheat *7s a 7s 3d* per bushel of 70 lbs.

Rice.—There is no Carolina rice here in importers' hands. The import is 3700 casks, against 1100 casks last year. Good new rice would probably bring 17*s* per cwt.

Cloverseed and Flaxseed.—The crops in this county and in Ireland are understood to be good. There is no flaxseed here, but prices are expected to open at about 75*s*. The stock of cloverseed is not yet ascertained, but it may be 700 to 800 casks. Old seed of fair quality is worth about 65*s*.

P. S. The stock of cloverseed is 1400 casks.

D. & C. LANDRETH,
NURSERY AND SEEDSMEN, Philadelphia,

Have appointed the subscriber agent for the sale of their GARDEN SEEDS; he vends no seeds but those from this establishment, and is authorised to say, that of him only can they at present be purchased in BALTIMORE.

Each parcel bears their label and warranted.

Orders received for FRUIT and ORNAMENTAL TREES, SHRUBS & GREEN HOUSE PLANTS, to be supplied from their nurseries with all possible despatch, and carefully packed. J. J. HARROD,
172 *Baltimore street, Baltimore.*

☞Catalogue for 1832, with a Treatise on the Cultivation of Esculent Vegetables, will issue in a few days —*price* 12½ *cents*, and to be had of all their agents.

J. J. H. has just opened on sale a large assortment of the above seeds. Feb. 3.

FRESH GARDEN SEEDS.

J. S. Eastman, No. 36 west Pratt street, between Hanover and Charles street, has in store, a pretty general assortment of fresh Garden Seeds of European and American growth, and is daily in expectation of a further supply from Europe, when his assortment will be complete, and which he will be enabled to recommend to his customers with confidence, as no pains has been spared in procuring them from Seedsmen of high standing.

His assortment embraces a great variety of Cabbages, Radishes, Brocolis, Borecoles, the best kinds of Lettuces, early and late Cauliflower, Beets, Long Orange and Horn Carrots, a great variety of Peas and Beans, Mangle Wurtzel, Ruta Baga, Turnips, long green, early frame and cluster Cucumbers, with other varieties of Garden Seeds, all of which he will sell, wholesale and retail, on reasonable terms.

General Agricultural and Horticultural Establishment.

Comprising,—A Seed and Implement Store; a General Agricultural Agency, and the Office of the American Farmer, in the basement of Barnum's City Hotel, Baltimore;

In Connexion with a Stock and Experimental Farm and Garden in the Vicinity.

By I. Irvine Hitchcock and Gideon B. Smith.

FRESH GARDEN SEEDS.

A general assortment now on hand, mostly raised by Gideon B. Smith in 1831.

FLOWER SEEDS.

The following Flower Seeds for sale at the American Farmer Seed Store, *price 6¼ cents a paper,* or $2 for a full collection of 53 kinds.

Hairy leaved Cinquefoil, Prismatic Sage, Red Hibiscus, Lythrum Salicaria, Bugloss, Asclepias Nigra, a vine, Rough leaved Salvia, Sensitive Plant, Verbascum Marshallianum, Campanula rapunculoides, Scarlet Snapdragon, Amethyst flowered Eryngium, Evening Primrose, Grape leaved Kitaibelia, Scarlet Cacalia, Lathyrus latifolius, Downy Millefoil, Perennial flax, Beautiful Spotted flowered Poppy, Eryngium planum, Sweet rocket, Astragalus galegiformis, Centaurea phrygia, Great flowering Foxglove, Yellow Iris, Balsam, different colours, Double black Holyhock, Fumitary Vine, Asclepia incarnata, Rose coloured Antirrhinum, Silphium perfoliatum, Campanula Siberica, Delphinium elatum, Branching Larkspur, Honesty, Digitalis lutea, Campanula urticifolia, Pale Rose Hibiscus, Eupatorium celestinum, Campanula Azurea, Lychnis diurna, Sweet William, Vesicaria Sennata, Love in a mist or Devil in a Bush, Rose Campion, Chieranthus helveticus, Blue Canterbury bells, Blue Columbine, White Foxglove, Pink flowering Columbine, Siberian Larkspur, Purple Foxglove, Oriental Foxglove.

LUCERNE SEED.

Will be received in a few days a supply of Fresh Lucerne Seed of the growth of 1831. *Price* 37½ *cts. per* lb.

RAPE SEED.

Just received, a small quantity of fresh Rape seed; *price* 10 *cts. per* lb.

BULBOUS FLOWER ROOTS.

For sale a small but elegant assortment of Tulips, early double and single Van Thol, and common kinds; Crown Imperials and Persian Fritillaries; Polyanthus narcissus, yellow and white fragrant; Yellow fragrant and White fragrant; Double and single fragrant Jonquils, &c.

A few of our splendid collection of new Pæonies and Hemerocalises yet on hand.

BUFFALOE BERRY TREES.

On hand a few of the new and beautiful fruit trees originally from the Rocky Mountains, mentioned in No. 5, vol. 13, American Farmer, called *Buffaloe berry tree,* or Shepherdia. This is one of the most beautiful of all ornamental trees, bears delicious fruit, and is perfectly hardy—*price* $1 *each.*

LINNÆAN BOTANIC GARDEN AND NURSERIES, FLUSHING, NEAR NEW YORK.

WM. PRINCE & SONS, Proprietors, announce that the great extensions made in their Establishment, which now covers near fifty acres, completely filled with the choicest TREES, SHRUBS AND PLANTS, enable them to offer the various kinds at the reduced prices stated in their new Catalogues, which will be sent to any person who may apply for them. The size and excellence of the Trees exceed all former periods; and the most scrupulous attention has been devoted to their accuracy, which is invariably an object of their personal attention. To Nurseries they will allow a liberal discount and convenient credit All letters desiring information will be replied to by the first mail. As many persons are agents for different Nurseries, it is requested that orders intended for us be particularly specified. Every Invoice sent has a printed heading and our signature, and such proof of origin must be insisted on, as we take upon ourselves no responsibility unless such an invoice can be produced.

Their Treatise on the VINE, describes 280 kinds of Grapes and their culture:—Their Treatise on HORTICULTURE contains descriptions of a great variety of TREES and PLANTS, and directions for cultivating them;—and their Pomological MANUAL, just published, contains full descriptions of above 600 varieties of PEARS, PLUMS, PEACHES, CHERRIES, APRICOTS, NECTARINES, ALMONDS, *&c.* besides other Fruits, so that all persons can make their selections, with a knowledge of the qualities. Apply at the American Farmer Office and Agricultural Agency, Baltimore.

APPLE SEEDLINGS, ORNAMENTAL TREES, &c.

SINCLAIR & MOORE, offer for sale 15,000 APPLE SEEDLINGS, strong plants, full two feet long, propagated from seed of winter fruit, and which would be a valuable acquisition to persons engaged in the nursery business, who are not in possession of a sufficient number of stocks to graft upon. *Price* $10 *per thousand.*

Also, ENGLISH ELM TREES, extra large; Italian White Mulberry, large size for silk or ornament; Abelle or Silver leaved Poplar, Catalpa, Paper Mulberry, Honey and Yellow Locust; Linden, Glaucous and other Magnolias, Red Cedar, Arbor Vitae, Weymoth or White Pine, Black Spruce. Balm of Gilead or Balsam Fir, English Yew, Silver and Gold edged Tree Box; rooted plants and cuttings of the celebrated "Adlum's Madeira or Catawba," and many other kinds of Grape plants; Scions or cuttings for engrafting and planting of Apple, Pear, Plum, Apricot, Quince, Cherry, Currant, Honeysuckle, Jessamine, &c., Asparagus, Horse Radish, Hop, Sea Kail, Tart, Rhubarb and Dyer's Madder Roots. Althea, Corcoras and Roses of great beauty, among which is the Greville Rose, so justly celebrated, Raspberry, Strawberry, and Currant Plants, Hawthorn and Honey Locust for hedges. For other Trees and Plants, see catalogues, to be had gratis at their store, Pratt-st. wharf.

☞ A single laboring man, of steady habits, and who is acquainted with the nursery business, will meet with constant employment at their nursery. *Feb.* 10.

THE HORTICULTURAL GARDEN OF THE LATE ANDREW PARMENTIER, IS OFFERED FOR SALE.

The reputation of this establishment is not confined to the vicinity of New York, but is well known throughout the United States, and different parts of Europe. It is situated two miles from the city of New York, at Brooklyn, Long Island, at the junction of the Jamaica and Flatbush Roads, and contains 24 acres.

The Grounds are in a very high state of cultivation, and laid out with judgment and taste. The situation is very healthy, and the view very extensive, commanding the bay, the city, &c. The Garden is enclosed by a pointed stone fence, and inside of that is a hawthorn hedge. The Nursery contains a fine and extensive collection of Fruit, Forest and Ornamental Trees; also, a splendid collection of Roses and Herbaceous Plants,—the object of its late Proprietor having always been to collect every new variety.

On the premises are a Dwelling House, two Laborers' Houses, seven Cisterns, and a never-failing Pump of excellent Water—four Green and Hot Houses, containing a rich variety of rare exotics.

The advantages to be derived by any person who wishes to engage in the occupation of Gardening, by the purchase of this property, are very great; the business already secured is very extensive, and the prospect of increased encouragement is such as to warrant the belief that the purchase of the property will amply repay the enterprise of any one who may engage in the business.

Terms will be made known by applying to Mrs. Parmentier, on the premises.

N. B. Mrs. P. will receive and execute all orders.
Feb 10—6t.

BALTIMORE PRICES CURRENT.

Baltimore Market.—There is no change whatever in flour or wheat, though the former is excessively dull. The wagon price of Howard street flour was $5.00 yesterday and the store price $5.12 to 5.25. Wheat remains as before. Corn has declined still further, and sales have been made at our quotations.

Tobacco.--Seconds, as in quality, 3.00 a 5.00; do. ground leaf, 5.00 a 9.00.—-Crop, common, 3.00 a 5.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 10 00; yellow and red, 8.00 a 14.00; yellow, 14 00 a 16.00.—Fine yellow, 16.00 a 20.00.—-Virginia, 4.00 a——.—Rappahannock, 3.00 a 4.00——Kentucky, 3.50 a 8.00. The inspections of the week comprise 77 hhd. Md.; 4 hhds Ohio—total 81 hhds.

Flour—best white wheat family, $6.75 *a* 7.25; super Howard-st. fresh 512.½ *a* 5.25; city mills, $5 00 *a*—— *a*——; Susq.— *a* —; Corn Meal bbl 3 50; Grain, Md. red wheat, 1.00 *a* 1.05; white do.—— *a* ——, Susq. — *a* —Corn, white, 43 *a* 45—yellow 43 *a* 45—Rye, 75 *a* — —Oats, 38 *a* 40.—Beans, 75 *a* 80—Peas, 65 *a* 70—Clover-seed 5.75 *a* 6.00—Timothy, 2.50 *a* —— Orchard Grass —— *a* ——-Tall Meadow Oat Grass 2.00 *a* 2.50---Herd's, 75 *a* 1.00--Lucerne — *a* 37½ lb.—Barley,—Flaxseed 1½ *a* 1 5-8-Cotton, Va. 7½ *a* 9-Lou. 9 *a* 12—Alab. 8 *a*. 10—Tenn. .7½ *a*. 9; N. Car. 8 *a* .9½—Upland 8 *a* 10---Whiskey. hhds. 1st p. 33 *a* —; in bbls. 34 *a* 34½---Wool, *Washed*, Prime or Saxony Fleece 49 *a* 57; American Full Blood, 40 *a* 45; three quarters do. 36 *a* 40; half do. 34 *a* 36; quarter and common do. 30 *a* 34. *Unwashed*, Prime or Saxony Fleece, 30 *a* 34; American Full Blood, 26 *a* 28; three quarters do. 24 *a* 26; half do. 22 *a* 24; quarter and common, 18 *a* 22——Hemp, Russia, ton, $225 *a* –; Country, dew-rotted 5½ *a* 7c. lb. water-rotted, 7 *a* 9c.—Feathers, 37½ *a* 38; Plaster Paris, per ton, 4.75 *a* —-, ground, 1.37½ *a*-— bbl. Iron, gray pig for foundries per ton 33.00 *a* ——; high pig for forges, per ton, 28.00 *a* 30.00; bar Sus. per ton, 72.50 a 80.00.—Prime Beef on the hoof, 5.50 *a* 6.00—Oak wood, 4.00 *a* 4.50--Hickory, 5.50 *a* 6.00.

CONTENTS OF THIS NUMBER.

On the Cultivation of Wheat and Improving Exhausted Land—Breeds of Cattle; Swine, Treatment of Diseased Horses, &c.—Cheat or Chess—Items of Husbandry from Various Sources; Sheep fed with Pea Straw; Preparing Straw for Cattle Food; Management of Grass Lands; Pasture Land; Soiling; Lucerne—Planting Corn—Second Prize Essay. Horticultural Division, by John C. Short, of Cleves, Ohio; The Garden—Destruction of Peaches and Grapes by Severe Frost—The Osage Orange—Instructions for Fishermen, by Col. James Fenwick, concluded; Clearing Places for Seine-Hauling, Putting up Fish, Tides, Changes and Full of Moon, &c.—To Make Apple Butter—Extraction of Sugar from the Seckel Pear, concluded—Editorial—Foreign Markets—Advertisements—Prices Current of Country Produce in the Baltimore Market.

EDITED BY GIDEON B. SMITH.

Published every Friday, (at the old office, basement of Barnum's City hotel,) by I. IRVINE HITCHCOCK, *on the following*

TERMS.

1. Price five dollars per annum, due at the middle of each year of subscription.
2. Subscriptions are in all cases charged *by the year,* and never for a shorter term.
3. When once sent to a subscriber, the paper will not be discontinued without his special order; and then not till the end of the year of his subscription that shall be current at the time of receiving such order; except at the discretion of the publisher.
4. The risk of mail in the transportation of both the paper, and of bank notes sent in payment for it, is assumed by the publisher.
5. Advertisements connected with any of the subjects of the American Farmer, inserted *once,* (seldom more) at one dollar per square.
6. All letters concerning this paper must be directed to the publisher. They must be free of postage, except communications intended for publication, and letters containing money.

☞ All Postmasters are requested to act as agents for the Farmer; they are authorised to retain $1 for each new subscriber, and 10 per cent. on *all other* collections.

Printed by John D. Toy, corner of St. Paul and Market streets.

AGRICULTURE.

CHEAT OR CHESS.

Mr. Smith: Cambridge, Md.

The much controverted question of the origin of a plant, interfering often with our wheat crops, which has been termed, in some districts of our country, "Cheat," in others, "Darnel," and in others, "Chess," is worthy of a serious consideration,—as false notions of its origin and character, will lead to practical errors, which may multiply and perpetuate the evil.

This plant has been referred to various sources, of which "*semination, accidental,* or *careless*," and "*degeneracy of the wheat plant*," are perhaps alone entitled to notice. The former is generally adopted, the latter is *spurned* by the "*conoscentis*."

The result of my observations, for several years, has led me conclusively to the firm, immutable conviction, that this vegetable, vulgarly called "Cheat or Darnel," is degenerated wheat; and though the philosopher in his vanity, may abhor the mysterious fact of such a metamorphosis, because it may oppose his favorite theory, or come in collision with his views of the laws of nature, he will have his confidence diminished by a retrospect of the history and progress of science, in the disclosure of those laws, by innumerable facts, at variance with common observation, which have been successively rejected, and by force of evidence, received, though mysterious, and finally given rise to new lights in the philosophic world, and demonstrated the imperfection of human attainment, and at the same time, by its rapid advances to truth, the divine perfectibility of the human mind.

It is true, the too easy acceptance of new facts, not in conformity with experience, is dangerous to science; so is pertinacious confidence, precipitate generalization, and hasty induction; solitary effusions of isolated facts, possibly misconceived, or designed for the support of a new hypothesis, cannot, with safety, be accredited; but when they are collected and confirmed, from various, competent, and disinterested sources, though repugnant to our notions of the laws, under which, in analogy, we might place them, it is the part of true philosophy, to receive and refer them to the numerous class of "*mystery*," which is already heaped on the *inquirer's* shelf, for a possible and future developement of their hidden modes and causes.

With these apologetic sentiments, perhaps essential, to palliate the offence of my *heterodoxy*, I repeat my firm conviction, "that Cheat or Darnel, as we here synonimously term the plant in question, (the term Chess being unknown among us) is degenerated wheat."

The conviction of this truth, arises from the evidence of many competent witnesses, and from my own repeated observations, diligently directed to the subject; and it is assisted by many analogous instances, at the command of all persons, who have observed any thing of the *aberrations* of nature, throughout her great fabric of the animal, as well as the vegetable kingdom.

Who has not witnessed those phenomena conspicuously, in the growth of that valuable staple of our country, the "Indian Corn?" I have now in my possession a specimen of the growth of this plant essentially differing from that of the kindred stalks of the same seed; it was sent me last fall, with the laconic inquiry "*quo modo?*" by an intelligent, veracious, and observant friend, who assured me he had taken it from the side of a usual stalk; and that he had many of them in his field: its appearance is natural in all respects, except in the "place," "kind," and "manner" of its fruiting: the grain which is naked, numerous, small, round, and imperfect, closely invests and fills every branch and fibre of the "tassel," the exuberance and richness of which attracted attention: no ear was found on the body of the stalk. I have frequently met with similar productions in fields of corn; and so, perhaps, has every farmer, in the habit of observation. Various circumstances of weather, or accident, not understood, may, and do defeat the arrangements of nature, and disappoint her purposes; it is true in all her departments;—incidental causes, other powers in nature, than those which are *visible* or *intelligible* to the eye, or understanding of man, influence extensively her operations; they are noticed in effect, only when they interfere with his interests, as in the case of the metamorphosis of wheat into Darnel, or what is so termed.

Some have assimilated this spurious growth to the "Bromus" or Cheat; some to the "Lolium" or "Darnel," and others to Chess, and others to oats, to which they have severally fancied a resemblance; but be assured that this "Cheat," alias "Darnel," alias "Chess," alias oats, or by whatsoever name fancy may attach to it, is "wheat," controlled in its growth, at a critical period, by feeding down, or by some unfavourable incident, operating on the tender seminal germ, when too far advanced for reclamation.

It is not irrational to suppose the truth of my proposition, independently of positive testimony: and the testimony leaves no doubt; the facts in support of it are too numerous for insertion; from every quarter I have learned the unequivocal statement of facts, that do not, from the character of their authors, admit of deception or error; that, of the gentleman, in Virginia, under the signature of "Tyro," in a late number of the "American Farmer," contains conclusive facts. I refer to his cases as strikingly similar to such as have come within my own observation, and need not be repeated. I have too witnessed wheat, when in a critical stage of its growth, nipped by my horses and cattle, to degenerate as far as the injury occurred into worthless "Darnel," so called—I have observed this so universally, when done at a particular period of the vegetation, that I have long since been constrained to consider them cause and effect.

It has been urged, that in this case, the decline of the wheat gave room to, and allowed the growth of the Darnel—but the former *did not decline;* on the contrary it branched the more, and retained in appearance its vegetative vigour, and was better adapted to smother extraneous seeds; but its seminal germ was impaired, and nature could not restore it, and reputed "Darnel" was the result—injuries from other causes at the same period will produce the same disaster.

But it is said, "Birds are the seedsmen of Darnel;" this is truly catching at straws—it is evidence of a desperate case—it is a fancy too extravagant for serious consideration.

It is said, that if Darnel were "degenerated wheat," the injury would be in proportion to the extent of the cause; that is, the defect in the grain would be greater, or less, *pro rata;*—this is literally the fact;—I have in my possession a paper of Darnel, or degenerated wheat, whose heads are the "Darnel," but containing all the intermediate grades, between the two sorts of grain, so nearly assimilated, that no person, of the many to whom I have shown them, can discriminate or assign them all their respective terms of "wheat" or "Darnel."

It is said "that all other vegetables, though injured, retain their organic structure, and only indicate their degeneracy by their feebleness of structure and imperfection of fruit."

The observant botanist must have remarked, and records, ancient and modern, establish the fact, that a plant may be so altered, by adventitious circumstances affecting its growth, as not to be identified with its family, in its external organization, or chemical constitution: the former may happen in a season, as in the case of the "Indian Corn" before stated, bearing grain on its *tassel* in place of the stalk, and that *naked,* and without *cob* or *cap;*—the latter will require a longer period, as with the peach, the parsnip, celery, potatoe, &c. &c.

Dr. Paris in his Pharmacologia, mentions plants which he has known to change their chemical properties, and even the shape of their leaves by adventitious circumstances, and adds, that they do not readily recover them.

That the original of the peach was a nut, with a tough coriaceous shell, and like the "almond," if not really an almond, is so well attested, as to leave no doubt; the peach and almond belong to the same class and order, "Icosandria," "Monogynia," and to the same genus, "Amygdolus." The same authority informs us that we have lost many vegetable species—and that foreign incidents of vegetation may destroy the properties of a plant, and raise in it new qualities. The "*Tuberes*" of Pliny are supposed by Mr. Knight to be an intermediate production, formed during the advancement of the almond to the peach, or to be swollen almonds or imperfect peaches; in fact in their *stalks* and *leaves*, they are as much alike as the wheat and Darnel, and like them differ only in *fruiting:* which difference has been produced by adventitious circumstances, and consists not in "feebleness" and "imperfection," but in an essential and obvious mutation of "*kind*" and of "organic structure"—and yet it is said by our opponents, that all other vegetables retain their "organic structure," in despite of incidents of vegetation: upon this point then they will succumb.

Buffon affirms, that "wheat" is a "*factitious production;*" that is, like the peach from the almond, so the wheat very possibly and probably, may have sprung from a species of "*Bromus* or of *Lolium*," or of *oats*, which are all of the same class and order as the wheat, "Triandria, Digynia;" or from a variety of the same genus under which it now stands, possessing originally as different a head from that of the present wheat, as that of the almond and the peach.

With these facts before them, my physiological adversaries cannot persevere to deny, that science, the offspring of facts, allows the *mutation* of plants by foreign adventitious incidents; though the *cause, mode, extent,* and *time* required in either case are hidden from our view, and will perhaps long remain among the arcana of nature.

The trite "dictum" on which they rely, "that like will produce like," is true as a general rule, but it is subject to many exceptions; or rather, under various counter influences, the result may widely differ from an anticipation under the rule.

Under the dogma of this philosophy, an almond has not been changed into a peach; nor a sloe into a plum; nor wheat into any thing unlike itself; but the facts contradict this philosophy, and they must be respected.

Will they discredit all they do not comprehend? Then they discredit the very maxim on which they found their belief, "that like will produce like;"—it is equally incomprehensible.

As a general rule the maxim is undoubtedly true—that nature has a tendency to perpetuate and preserve her primitive orders; but it is equally true, that from causes unknown and unintelligible, it has exceptions innumerable. Unless we discredit the best and highest authorities in natural science, the chain of nature has been frequently interrupted by the force of incidental powers, apparently in collision with her designs. *Species*, and even *genera*, in the animal and vegetable world have become extinct, and others substituted—how and why we know not—the facts we must receive, unless we are prepared to reject all that our eyes have not beheld.

Wherein then, I would ask, consists the philosophy of an absolute denial of the possibility of the transmutation of wheat, by foreign incidents, into something very unlike itself—or even into genuine "Darnel" or "Cheat?"

This *transmutation* or *degeneracy* was recognised in the enlightened days of Rome by the most enlightened of its citizens—the Elder Pliny, who was emphatically styled "The judicious master of natural science:"—From the resemblance of the head of Darnel to "Oats," this learned man has expressed himself thus: 'Primum omnium frumenti vitium avena est: et hordeum in eam DEGENERAT" Vide Pliny, Nat. His. Lib. 18. Ca. 17.

The "*transmutation*, or if you prefer the term, the "*degeneracy*" is *possible, because equal changes have been produced in other vegetables.*

It is *probable, because "wheat" is itself a* "FACTITIOUS *production*," and may, therefore, the more readily be changed; or return, by adventitious circumstances, to its primitive character.

It is *certain, because it is attested by competent, veracious, and disinterested testimony.*

I am respectfully, &c. Joseph E. Muse.

(For the American Farmer.)

BARBERRY AND WHEAT.

A correspondent (H. C.) in the New York Farmer, in relation to the supposed effects of the Barberry in blighting wheat, says "for the two last years I have raised spring wheat *in the very near vicinity* of barberry bushes *without any perceptible injury*. The year before the last the crop was very good, being at the rate of twenty-five bushels to the acre; the present year much lighter, but this was the case with English grain among us universally. In neither case was there any appearance of blast."

The editor of that paper by way of comment, has copied from the Mass. Agr. Repository the following remarks "*on the injurious effects of the barberry bush* on wheat and other English grain."

"This opinion, often deemed a prejudice, and by others considered as an unquestionable fact, has lately received the most full and scientific investigation in France. The result of these inquiries comprised in no less than eighty-four pages of Tessier's Annals of Agriculture, seems to settle the question as to the injurious effects of this plant, and that it is pretty uniformly in France, England, Switzerland and Germany *considered, and we may say almost* PROVED, to be one of the causes of blight. We ourselves were perfectly incredulous to this subject, but we are compelled to yield to the weight of proofs.

"It is no longer attributed to the influence or operation of the farina of the flower of the barberry, which is over and disseminated several weeks before the several species of grain are in blossom, but it seems to be attributed to a parasitic plant very abundant on the barberry, and which is considered to be the same which causes *the rust upon the stalk* of wheat.

In Loudon's Encyclopedia of Plants, we are told that "*Berberis vulgaris* is at once an ornamental shrub, a fruit tree, a hedge plant, a dye, a drug, and *a* REPUTED *enemy to the corn farmer*. The *Æcidium berberidis* [a fungus] its particular inhabitant, is *supposed* to generate the dust which, carried from the bush by winds, and lighting on wheat and other growing corns, gives rise to the *Puccinia*, a minute fungus which closes up the pores of the leaves, and appears *like rust* or mildew. Many highly respectable authorities in Britain, on the Continent, and in America are in favour of and against this opinion. Willdenow, Withering and Dwight have stated various remarkable cases on good authority. Sir J. Banks and his draughtsman Bauer, *proved the fact of the mildew being a fungus*."

This writer evidently leaves the matter in doubt. When difficulties are presented, which are attempted to be solved by admitting a wide departure from the ordinary operations of nature, we can scarcely receive such solutions with too much caution, or examine them with too much care. Sir Joseph Banks had determined that this blight was caused by a fungus; but that the dust of one fungus (*Æcidium*,) should generate another fungus (*Puccinia*,) belonging to a different genus was not a discovery allotted to Sir Joseph Banks. This indeed would be an extraordinary transformation, and ought not to be credited without the strongest proof.

The French experiments might seem to be well rebutted by the facts stated by H. C.; but there is one important consideration which appears to have been generally omitted in the discussion of this subject, to wit: several of our most respectable botanists describe the American barberry as a different species from that of Europe, and all other botanists admit it as a permanent variety. Now it seems very questionable whether the same fungus which infests one kind in Europe, infests also another species or permanent variety on this distant continent. I admit the possibility, but having no work on American Fungi but Professor Eaton's Manual, and not finding it there, I have no proof of the existence of the *Æcidium* on the American barberry.

But even were this ascertained to be a fact, it would be well to inquire whether there are barberry bushes enough in the country to furnish all the *Pucciniæ* which injure wheat? There are many extensive districts in New York and Pennsylvania, in which no barberry indigenously grows; indeed I have never resided in any district where it grew to my knowledge within hundreds of miles; yet in unfavorable seasons, the wheat has been blighted by a reddish rust. Now if this is the Puccinia referred to, we must either charge it on barberry bushes growing in remote districts, or assign it another origin.

David Thomas.

(From the Easton Gazette.)

THE HESSIAN FLY.

Friend Graham:

I was much gratified to see in your Gazette of the 14th inst. a communication from your scientific correspondent Dr. Joseph E. Muse; particularly so, as it related to a subject in which all farmers feel so deep an interest, namely, that of avoiding the depredations of the "Hessian Fly," by keeping clean stack yards and discarding the use of stubble fallow for a succeeding crop of wheat.

It would be the height of presumption in me to attempt to refute or to call in question any part of that communication, from a knowledge of the above insect, gained by my own observations, or to attempt a defence of Mr. McKee, who has been so much deceived (as the Doctor informs us) in his observations, save in the deposit of the egg by the fly on the plant. I will leave Mr. McKee to defend his own position and only make a request that you will insert in your useful paper the following, for the edification of your readers; it is an extract from the 6th vol. part 1st, page 95, of a little work on insect transformations, and goes to prove that the Doctor is in an error when he asserts "that it is not probable, that the eggs could have borne the cold of last winter, without freezing; and no egg having been frozen, will produce a living animal." We cannot better conclude these imperfect sketches of the hybernation of insect eggs, than by an account of the ingenious experiments made by Spallanzani and John Hunter, by exposing several species of these to great degrees of cold as well as of heat. It results from these experiments that "intense cold," to use the words of Spallanzani, "does not destroy the eggs of insects.

The year of 1709, when Fahrenheit's thermometer fell to 1° is celebrated for its rigour and its fatal effects on plants and animals.

Who can believe, exclaims Boerhaave that the severity of this winter did not destroy the eggs of insects, especially those exposed to its influence in the open fields, on the naked earth, or on the branches of trees? Yet when the spring had tempered the air, these eggs produced as they usually did after the mildest winters. Since that period there have been winters more severe. In France, during December, 1788, the thermometer fell considerably lower, and in several other temperate European climates."

"I have exposed eggs to a more rigorous trial than the winter of 1709. Those of several insects, and among others the silk-worm, moth, and elm butterfly (Vanessa polychloras!) were inclosed in a glass vessel and buried five hours in a mixture of ice and sal gem (rock salt;) the thermometer fell 6° below zero. In the middle of the following spring, however, caterpillars came from all the eggs, and at the same time as from those that had suffered no cold. In the following year, I submitted them to an experiment still more hazardous. A mixture of ice and sal gem with the fuming spirit of nitre (Nitrate of Ammonia,) reduced the thermometer 22° below zero, that is 23° lower than the cold of 1709. They were not injured, as I had evident proof by their being hatched. The eggs of many insects continue fertile after being subjected to a temperature of 22° below zero, while insects themselves die at 16° and 14°."

I should like very much to see a plainly written and satisfactory reply to your editorial questions. Wheat no doubt is the favorite food of the "Hessian Fly," in the absence of which however I do not believe they would be starved, as they are to be found in rye, oats, and even in the succulent stems of timothy.

A Talbot Farmer.

LIME.

West-Chester, Feb. 3d, 1832.

Hon. Stephen Van Rensselaer.

Dear Sir,—I look to your well known public spirit, and acknowledged zeal to advance the interests of your country, in every branch of its industry, to plead my pardon for troubling you with this address. I am under the impression that lime is little used, if at all, as a manure in New York. My earnest wish is that it should be introduced into your Agriculture. Four years ago, the Hon. Mr. Markell, by letter, introduced a young man to me whose residence was on the Mohawk river. Seeing the profusion with which we scattered Lime in our fields, some of which where then white with it, led to conversation on the subject. He stated that his father had lime stone in abundance on his farm; that he had a kiln and burned lime for building, but that he never put it on land to fertillize it; nor had he before heard it was advantageous. Last summer a gentleman was at this place who resides about 30 miles from Albany, in a lime stone region, who told me it was not, that he was aware of, regarded as of any value as a manure. As here, in Chester County, not only on our thin, and worn out lands, but on our best farms, liming is extensively practised, and with the most unquestionable advantage, the thought occuring to me; I could not resist the impulse to invite your attention to the subject. Have you not lime stone on your extensive estates? If you have, I sincerely wish you to make the experiment, and am sure the introduction of a matter, that should prove generally beneficial to the farming interest of New York, would be a source to you of great satisfaction.

In Chester County the advantages of liming have been incalculable. Worn out soils have been renovated, and are now in the highest degree productive. I pray you to observe the advertisements in a single paper which I enclose, for the sale of land; the notices taken of the "Land being limed!"—or being "near to lime stone"—or having on it "lime stone," will give you an idea of the estimate in which the article is held here. Stephen P. Cochran, advertises a plantation which is set forth as being "within 4 miles of lime stone." Thos. M. Kean's Chatham Farm, is noted as having "lime stone quarries adjoining." Templeton and Brooke, advertise "a farm of lime stone land." William Hall offers a plantation, noting that there is "on said farm, an excellent quarry of marble and lime stone." Samuel S. Walley offers a farm for rent, "divided into convenient fields, some of which have been recently limed." J. Aitkin proposes to sell a plantation of 224 acres, "one half the tract good woodland," leaving 112 under cultivation, and states "there have been 7000 bushels of lime put on within a few years." S. Mackelduff offers for sale 57 acres, "a portion of which has been lately limed." Joseph Cox and Wm Griffith, advertise a dairy farm, which is of a "good quality," and "has all been limed;" and Wm. Bailey offers 73 acres "of an excellent quality, and in a high state of cultivation," and states "there have been within the last two years, ABOVE 3000 BUSHELS OF LIME PUT ON IT."

By these quotations and references, you will be able to form some idea how important lime is here regarded, for manure.

But an interesting fact came to my knowledge last week, which I venture to say will appear to your farmers extraordinary, that places in a strong point of light the importance in which liming is here considered. A mechanic in this borough, shrewd, intelligent, and who understands farming well, recently purchased a farm of about 100 acres, two miles below this, which had been much neglected. Falling in company with his tenant, the other day, and speaking of farming, he mentioned to me the rent he pays. He puts on this year 700 BUSHELS OF LIME. That is his payment. The distance is 7 miles that the lime must be hauled.

Should these suggestion lead to a fair experiment, I am sure the most beneficial results will follow therefrom to New York.

With the highest respect, I have the honor to be your friend and servant. C. MINOR.

EXTRACT OF A LETTER FROM A SUBSCRIBER, DATED

Black Walnut, Va. January 19, 1832.

It is my misfortune to reside in a section of country where agriculture has made but few advances from its rudest forms; our crops are tobacco, Indian corn, wheat and oats—the first of which claim all our best and richest land, and from the labour necessarily employed in its culture, preparation for, and transportation to market, leaves but little leisure for the improvement of our farms. The corn crop is the main crop for consumption, and after tobacco, claims the greatest share of our labour and attention;—its mode of cultivation has heretofore been rude and destructive to our hill lands, (which are very subject to wash) say in straight rows each way, five and a half feet, two stalks—or four and a half feet, one stalk in the hill, and ploughed both ways alternately with common Dutch or shovel ploughs, which render the lands much exposed to heavy rains, hence much of our hillsides are gone into gulleys and growing up in pine, though there is a spirit of improvement gradually making its way among us. Many of our better informed planters use the dagon or cast bedding plough, for preparing their corn land, and instead of ploughing straight rows, plough horizontally to prevent washing; to which some add hillside trenches with a flat bottom, say eighteen inches to two feet wide, and a fall of about one foot in ten yards—this effectually saves the land if judiciously located, which the horizontal ploughing is not always able to do, on long steep hillsides. Lands cultivated in this way are found to improve, while those tended the old way deteriorate. Care should be taken, when land is bedded, to open the planting furrow as deep as the bottom of the bed, or the crop will not stand severe drought.

Our crops of wheat are small, only intended for home consumption, as the article will not, at the average prices of flour, pay transportation. We have but few manufacturing mills in this country; but hope to see the wheat crop more an article of cultivation, as the trade of this country is gradually taking its course down the Roanoke, on the navigation of which Virginia and North Carolina have expended some three or four hundred thousand dollars, and which is now easy and safe.

I am yours respectfully, ———

Why are capers wholesome?

Because they are stimulating, antiscorbutic, and aperient. The bark of the root of the common caper passes for a diuretic medicine.

HORTICULTURE.

(From the Genesee Farmer.)

AMERICAN GRAPES.

We are much gratified with the communication from Mr. PRINCE, concerning the Isabella grape, as called forth by *Ulmus*. From the frank and gentlemanly manner in which he communicates whatever relates to American Pomology, which comes within his knowledge; and from his untiring zeal in collecting and digesting such information, the public will receive great benefit.

As the cultivation of the grape is now becoming, not only a matter of private interest, but of national importance, tending to render us more independent of other nations, and also more temperate within ourselves; we believe that whatever relates to their history or cultivation in these United States, will be interesting to most of our readers. As the Isabella grape ranks with the best of our indigenous varieties, which, by general consent, are allowed to be superior to foreign ones for vineyards, in point of profit, its correct history is desirable, more especially as some have been disposed to consider it an exotic.

That it may have been brought into notice at some particular place by being imported from a foreign country, we will not deny; but that its general characteristics are truly American, we have no doubt. That our native grapes were early taken to England the following descriptions, taken from *Parkinson*, will plainly prove. The author published this work on plants in 1640, which has been considered one of the early standard works of England. He arranges grapes under five different heads, viz:

1st. "*Vitis Vinifera*. The manured vine," (meaning the cultivated.) Under this head he enumerates many of the European grapes, which are cultivated at this time, and says they are so variable that he cannot describe them.

2d. "*Vitis laciniatifolis*. The Parsley vine, or grape with thin cut leaves. The grapes of which are white and great, are like unto the White Muscadine grape."

3d. *Labrusca*, or *Vitis Sylvestris Europea*. The wild vine of Europe. "The wild vine in regard it is natural, and therefore neglected, lyeth for the most part on the ground, and thereby is made lesse fruitfull, unlesse it meete with some hedge or tree, whereon it may clime, and then spreadeth as the manured, (cultivated) being both in branches, leaves, and tendrils like unto the manured vine."

4th. *Vitis Sylvestris Virginiana*. The wild vine of *Virginia*. "This one sort of vines of *Virginia*, like all other wild sorts, runneth on the ground, and taketh hold of whatsoever it meeteth with, being in all things like the former wild sorts, but that the grapes are small and white, and with little sappe or juyce in them, and the kernell twice as bigge as others. There is another sort that hath bigger blew grapes, and sowrer in taste. A third they call the Fox grape, and hath a regged bark, a very broad leafe, without any division almost, but dented, and the grape is white, but smelleth, and tasteth like unto a foxe."

5th. *Vitis Sylvestris trifolia Canadensis*. The wild vine of *Canada*. "This wild vine of *Canada* groweth like unto other wild vines of those parts with slender reddish branches, climing where it can get whereon; but the leaves on them being little more than half so large as the manured vine, hath only three partitions in every leaf, but each cut in deepe, even to the long smoth stalk whereon they stand, making them seeme as three leaves, which are of a darke greene colour; and somewhat thicke also, the fruite is like the other wild sorts, having more skinne and kernell than substance or juyce."

Thus it appears that Parkinson enumerated four different species of American grapes which had been introduced into England at that time, corresponding with the number of species as laid down by Mr. Prince in his Treatise on the Vine, page 220. Is it not possible that the Isabella was among those enumerated by Parkinson?

THE ISABELLA GRAPE.

Lin. Bot. Garden near New York,
N. GOODSELL, ESQ. *6th Jan.* 1832.

Dear Sir—In your paper of 31st ult. I notice, under the signature of "Ulmus," some comments on the Isabella grape, connected with a quotation from the "Treatise on Horticulture" published by my father, Mr. Wm. Prince, in 1828. My father received the scions of this vine in 1816, from Mrs. Isabella Gibbs, lady of George Gibbs, Esq. (not Col. Gibbs,) then residing at Brooklyn on this Island. That lady stated that she obtained it from North Carolina, her native state, and that it was originally brought from Dorchester, in South Carolina. It being deemed a highly valuable variety, and no similar one having been previously noticed as cultivated in the gardens of our country, my father gave it the name of "Isabella grape," after the lady from whom he received it. His impression, as well as that of every other person who then examined the fruit, derived from the fact, that no such variety had been previously described, and the improbability that so valuable a fruit would, if cultivated in other gardens, have remained unnoticed, was, that no similar vine then existed under culture in any of our gardens. That opinion was (in the absence of all proof to the contrary,) entertained by myself until the autumn of 1830, when a vine was described to me as identical with the Isabella, which had been growing for 33 years in a garden at Newport, Rhode Island. Some of the fruit had been presented to me previously to the statement of the particulars relative to the vine that produced it, which I pronounced at once to be the Isabella. Being desirous to act cautiously in every point connected with the nomenclature of our fruits, I decline commenting upon the circumstance until I should receive *proof incontrovertible*, not only as to *identity*, but as to the *age* of the vine. In consequence, I visited the garden the past season, and examined the parent vine, together with several of its progeny growing near it. The appearance of the old vine comports with the age awarded to it—the circumference of the main stem is 10½ inches. It is located in a spot unpropitious to its development, being shaded by large trees that appear to correspond with it in age. I made notes of many other particulars, but I cannot at this moment find them; the investigation, however, convinced me of its identity with the Isabella grape, and I have hitherto deferred publishing the facts only from the hope of attaining some additional light expected on the subject. The former occupant of the ground states that he planted the vine in 1798, and that he received it from New York. I am investigating the latter point, and the result of such investigation, as well as the contents of the notes above refered to, shall be made public hereafter; it having been the constant desire of my father and self to shed all possible light on horticultural subjects. The inconsiderate practice of adopting foreign titles for our native productions has already caused much inconvenience, and I hope there is no American so miserable a sycophant, as to suppose that any product of our country can be enhanced in its value, by the application of a foreign title.

The winne grape of Albany was announced two years since in one of the publications of that city, as having been brought from *Bordeaux*, when investigation has shown it to have been brought from Pennsylvania. The Troy grape is generally there called the *Hamburgh*, and we are now told that Mr. Veroet, a French gentleman, resident at Norwich, called the Isabella "*the Lisbon grape*," and that it "*was supposed to have been brought by Mr. V. from France or Cuba, where he had a plantation*," And these claims to foreign origin are attached to productions as strongly and indelibly marked with the characteristic distinctions of *natives*, as are the indigenous monarchs of our forests, or the untutored aborigines of our wilds and prairies. But there is another circumstance that places the native origin of the Isabella, &c. beyond the reach of cavil. It is *the acknowledgment of the fact by foreign nations themselves.* Wheresoever they have been introduced to other climes, they have failed to be claimed as natural productions, or even as *old acquaintances.* And the country of their origin has been acknowledged in the publications of their horticultural societies, and in all others I have perused, save one, which being an amusing exception, I cannot refrain from adverting thereto. In a catalogue of one of the most extensive collections of grape vines in France, the Isabella is not only enumerated as one of those *producing the choicest wine,* but has an additional note attached, which I translate literally. "*Isabella, a variety newly introduced to Europe, and which is said to afford the most excellent oriental wine; it also produces extraordinary crops.*"

Your correspondent "Ulmus" states that he does not believe the Isabella "*is a native of our country, of original stock, as all the indigenous grapes*" that he has "*ever yet seen, possess the same acid, hard pulp, and thick leathery skin of the ordinary Fox or Bullet grapes,*" referring evidently to the varieties of Vitis labrusca, which are common in this state. In reply, I will simply remark that the varieties of Vitis æstivalis, which are far more rarely met with in our state, but abound in Maryland and Virginia, have a much thinner skin and far less pulp, and some of the varieties of this and other species which grow abundantly further to the south, such as the Bland, Beaverdam, &c. have *as thin a skin as the foreign varieties;* and the Bland, White Scuppernong, Catawba, and many others, are *devoid of the acid, hard pulp.* In regard to native grapes, there exists perhaps in our vineyard, at the present period a greater number of varieties, originated from seeds we have sown, than have been obtained by a similar process in all the gardens of the Union, and the friendly tributes of our fellow-citizens, have concentrated in the collection thus formed, the natural products of every section of our country.

It may be well here to remark, that the Troy grape appears to me to approach the Isabella in character more nearly than any other variety that has met my notice. And in concluding these remarks, I have to state, that I fully agree with those of my fellow-citizens who deem pomological investigations, as regards our natural productions, to be yet but in their infancy, and while in common with others I tender a few crude ideas on such subjects, I view and intend them as germs of information, which by the investigation of more intelligent co-laborers, may attain to an ample development. Wm. Robert Prince.

(For the American Farmer.)

PEARS—INQUIRY.

Greatfield, Cayuga county, N. Y.
12th mo 26, 1831.

Last year, I mentioned in the New York Farmer, that pears from some grafts inserted into a Spitzenburgh apple tree, were a fortnight *later* than the same kind growing on pear stocks, rather *astringent,* and considerably *redder* and *sourer.*

In the present year the same branches were well loaded with pears; but I was not able to discover the least difference between these and those which grew on the pear stocks, either in the flavour, in the appearance, or in the time of ripening.

It would, therefore, seem, that some cause operated on the fruit of those branches in 1830, which failed to produce any effect in 1831. The Spitzenburgh tree into which these grafts were inserted, bore fruit in both seasons; and we naturally inquire, if the *stock* or the *pollen* caused the difference in 1830, why did it not operate in 1831? D. T.

DEFINITIONS,

From Gray's Natural Arrangement of British Plants.

(Selected by D. T. for the American Farmer.)

Tree. A plant with a single [?] woody stem, *growing at least three times as high as a man,* (18 feet.)

Small Tree. A tree which does not grow *above five times as high as a man,* (30 feet.)

Shrub. A plant with a woody stem, *not growing three times as high as a man.*

Bush. A low shrub *much branched at bottom.*

Under Shrub, suffrutex. A woody plant, *without buds,* which is *not an arm's length in height.*

Herb. A plant with a soft stalk [?] of the same consistence as leaves, and renewed every year, at least the part above ground.

The authors of the Linnæan school have introduced the use of *characters* to denote *terms that often occur.* The following are those most usually employed, as being found in most printing houses, and not requiring any extra expense of casting on purpose.

⊙ An annual plant; *because the* EARTH *takes a year to perform its motion round the* SUN.

♂ A biennial plant; *because* MARS *takes nearly two years to perform its revolution.*

♃ A perennial plant; *because* JUPITER *takes several years to perform its revolution.*

♄ A tree or shrub; *because* SATURN *takes nearly thirty years to perform its revolution.*

RURAL ECONOMY.

BOTS IN HORSES.

Crosswicks, N. J.
Friend Gideon B. Smith: *1st mo. 29th,* 1832.

I have this day been presented with the 38th No. 13th volume, of the American Farmer, by a friend, for examination upon the new theory of bots in horses, as contained in that paper. I acknowledge my incapacity for arguing a subject of so much interest to the public, and upon which so much discussion has heretofore taken place, and the present writer has so long and ingeniously dwelt; he being a member of the medical faculty, (as I understand) and I simply a mechanic, and never appeared before the public in this way, it will not be expected that I can express my views with the same talent as one of finer learning: and if I should prove more dogmatic in my expressions than the writer of the theory, I hope to be excused by an enlightened and considerate public. Therefore, I shall endeavour to throw, in a plain way, before the reader, the ideas I have gathered upon the subject, by merely stating some cases that have come within my own observation, and perhaps occasionally the remark of a friend.—The first I noticed in the theory, is a remark upon a late writer, in which he has tried all remedies without success, with which he appears so far to agree, but ridicules the idea of cramming chopped chickens down the throat of a horse as an inducement for them to let go their hold. Now, in justification of that writer, I am willing to add, that about five years since I put the entrails of a chicken down the throat of a horse supposed to be labouring with the bots; the consequence was, that he died shortly after, and upon dissection, say in two hours after, the entrails were chiefly destroyed; the bots had left their hold, some were found fast to the gizzard and liver, but the death was occasioned by a large worm having perforated the maw and drawn itself half through. This worm was six or eight inches in length and half an inch in diameter. Such a one I never before knew to inhabit the maw or first stomach; this maw was not in the least injured by bots, though they were numerous.

The first information he gives us is what we all know; that all horses have bots; but as to the position he has taken, that they never kill nor injure the horse, but always gnaw through immediately after the death of the animal, and so quick, that you must open a live subject to detect them, I must beg leave to differ from him in opinion. While absent from home last fourth month, I lost a noble mare, my people supposed she had died with the bots; she was in good flesh. Upon my return I had her taken up, although she had been buried twenty-four hours.—Knowing her to have a lung complaint, I was not willing to let the opportunity of discovery slip. I found her lungs more diseased than I expected: she had bots both sticking to the maw and loose, but no injury done to that part; she appeared to have died without any inflammation of the bowels, and though dead so long, the bots had not attempted to "gnaw their way out." I lost two other horses last season from other causes, that lay for some time before dissection; the bots adhered to the insensible part of the maw, and no injury done. I was presented with a colt of three years old for dissection; he was very far gone in a decay; I gave him a little asafœtida to see if I could create artificial strength; he was put in good pasture and ate heartily during the first day —the next day he became very uneasy and was down—on the third morning I killed him; the maw was much distended. Upon opening immediately after death, the bots were found collected into the small gut at the outlet of the maw, or first stomach, and no food had passed during the period that I had him, as was plain to be seen by the difference in the aliment; his maw was not in the least injured by them, but in a few minutes he must have fallen a victim to those "harmless insects." They had so completely closed the bowel that your finger could not be passed through. They were much more numerous than common, and he the poorest animal I ever saw walk. I think the doctor's statement not correct at all times, since I have seen many fat horses have but few. I have killed five horses in my time, all of them young, and three perfectly sound in body; the bots were mostly sticking fast to the insensible part of the maw, quietly drawing their support, and the animals appeared to receive no inconvenience from them. I have known several animals choked to death by these, as they are termed, "harmless insects," working themselves up into the oezen or gullet, and so completely stopping the passage. This I have discovered by immediate dissection. I knew a horse two years ago that came in from the plough at night apparently well; in the morning he was nearly dead, and expired shortly. He was opened pretty soon, as soon as could be conveniently done; his maw was gnawed through upon the sensible part, and the last mess he had eaten, which was a large one, entirely emptied out into the chest; this horse died with the bots. The maw was hung up and the bots, (whether they are carnivorous insects or not) regaled themselves upon it for more than a fornight. I have known many young horses die at pasture with what I believed to be the bots. Twenty-five years since, my brother had a colt of about two months old, that was very drooping. I had an uncle that was considered a farrier of standing in that day; he was called, but did not pretend to describe the complaint. The colt shortly died and was immediately opened; the maw was found destroyed by bots.—These circumstances are a proof, to my mind, that bots do not always resort to the maw or bowels of a horse as soon as his breath is gone, and in the work of a moment gnaw it through, as the doctor observes; since I have seen the maw pretty much destroyed in a few minutes after death, and at other times they have had their usual hold upon the insensible part twenty-four hours after the horse had been buried. All observant people, that have dissected many horses, know that they have a sensible and insensible part to the maw or first stomach, to which the bots attach themselves. To the insensible part they do no injury, but are conducive to health;—but if they, from some unknown cause, attach themselves to the sensible part, they keep up great irritation and sometimes gnaw through and destroy the horse. I have tried most of the prescriptions that I have heard of for destroying bots, by applying it to them after taken from the horse, but never discovered any thing that would destroy them, which would be safe to give the animal. My practice has been to bleed in the jugular vein and pour the blood down the throat, or bleed in the mouth, or put down milk, whiskey and molasses and laudanum, when I could get it, or any such like preparation, to entice them to loose their hold; when this great object is gained, they may be carried off by a brisk cathartic; but in most cases the attacks are so violent that the administering of medicine is in vain and useless. All the ancient authors that I have consulted, together with the modern and more experienced Lawrence, White, and Hinds, surgeons and professors of the veterinary art, all agree in their being destructive to that noble animal; and from the few cases that have come under my observation I am confident that the ravages made upon them could not have been done in the short space of time the subjects have lain before dissection. I have made it a point to open all the horses that have died within my reach, so far as time and circumstances would admit, and am pleased to say that I am satisfied with the discoveries I have made. I should think it quite as likely from a change of diet in the animal, from long fasting, hard driving, from accident affecting the whole system, or from over bleeding or purging, or some unknown cause, that the bots should resort to the sensible part of the maw, and create pain or excitement, or even cause death, as that they should, the very moment of a horse's death, resort to their hold and gnaw through, to endeavour to make their escape from a dead subject, and still find themselves lodged among the intestines. I should think this instinct of nature would have led them up the gullet, and thus to escape at the mouth, like "worms in children."

This idea is new to me, and although it has been both ably and ingeniously argued, yet it has carried no conviction to my mind, of the correctness of the theory; since the horse that was killed, might have been frantic with pain from these insects, and so leaped the fence in a headlong manner; and the one drained of his last blood, might have been labouring under the same disease, and the insects finding themselves robbed of their support by this copious draining, resorted immediately to the sensible part of the maw, and commenced their ravages where blood is more easily obtained, and thus produced the effect discovered by the doctor. In regard to the horse for whom preparation was made before he died, for dissection, the case seems the most marvelous, as those clumsy creatures are much put to it to change their position, and are among the most inactive insects. How they, in the short space of time given by the doctor, should perforate the maw in the manner described, I must leave for an enlightened public to judge. For my part, knowing the great muscular strength of the maw (for the maw it must be, since the bots do not inhabit the after bowels) I have my doubts whether a common dog could have gnawed it through in the same time. With respect to the origin of bots, it seems to be the prevailing opinion that they are foaled in the colt; although I have had many opportunities of making this discovery, I never opened the body of a dead foal in my life; but I contemplate on not letting another opportunity slip without making myself acquainted with a subject upon which so much discussion has taken place.

Now, the result of my observation is this, that they are foaled with the colt, and that they are as natural, and may I not say necessary, to the support of health as worms in children or even grown people; that they do not breed there, but are cast out at certain periods and blow into a fly, that comes round the horse and makes him more restive than other insects: here they deposit their eggs upon the hair of the animal; those eggs are conveyed to the stomach by accident where they again hatch, and so generation goes on. Now, for the truth of this opinion, I confess I have not much to advance but common repute and hearsay evidence, of which I have had an abundance. But a neighbour of mine, and a man of undoubted veracity, informed me that his brother procured a bot and put it in a phial, some days after he was present when it blowed, and it actually came out one of those flies, or what is termed "lay-nits," so troublesome to horses. With respect to the doctor's treatment of the colic, it is quite as singular, as some other positions that he has laid down. First to give an ounce of laudanum, then bleed until the animal falls, while down to pour down two quarts of castor oil, &c. Now, this treatment would be correct if administered in moderation, but first bleeding to such an extreme, I should consider dangerous, seeing the horse bled to relax the muscles in case of a dislocated joint, had only power to raise once before he fell dead upon the spot. This, together with a double quantity of oil, I should think would render the remedy worse than the disease. As to plunging a knife in the flank of the horse, I have frequently heard of the exploit, but never saw it performed. I have heard of horses dying from the operation, but never heard of one recovering; perhaps this was owing to the operation being injudiciously performed. If this can be done with the same ease and safety that it can in horn cattle, it should be made known to the public, and the place pointed out with great precision. I should be glad to be possessed of that knowledge, and should I find a desperate case of wind colic, and the subject labouring under it of little value, I think I should venture the experiment. If this can be performed in the same manner that it can in horn cattle, it would be of incalculable advantage to the community. Now, when cattle are hoven with grass you may fearlessly plunge your knife in upon the left side, mid-way between the hip and the long ribs, minding to go low enough to miss the short ribs and kidney fat; the paunch is very thin in this place. If you will keep the hole open, the air will escape freely. I have relieved working cattle in this way, that have been put to service immediately after the operation. Some farmers know this; they should teach it to their hired men and boys, all should know it, from the least to the greatest.

I am not inclined to think the editorial remarks upon the doctor's theory are altogether correct, since I have known hogs to eat chickens alive, dogs the flesh of sheep while living; lice, the dog, wood, and sand tick, together with flies and musquetoes and many other insects, all drain their support from living subjects, and I believe many do not leave them when dead; and why not bots in the maw of a living horse gain their support in the same way? I confess I am not able to understand this part of the doctor's theory, since in itself it appears to me to be somewhat contradictory. I confess with the editor, I am in quest of truth, and have stated a few of the facts that have come within my own observation, without any disposition to raise a controversy, (for that I dislike) and if I have said any thing harsh or imprudent that should disturb the feelings of the writer or the editor, I sincerely hope to be excused, both by them and the readers of the few lines I have penned, should the editor think this worthy of a place in his paper.

Peter Ellis.

Why is a polished metal tea-pot preferable to one of earthenware?

Because the earthen pot retains the heat only one-eighth of the time that a silver or polished metal pot will; consequently, there will be a corresponding difference in their fitness for extracting the virtues of the tea.

(From the Raleigh Register.)

WINE MAKING.

Messrs. Gales & Son.

Now, I would not have every farmer, nor any farmer, put all his force to wine making, nor indeed much of it. His initial steps will be those of a learner, and he must grope and feel his way with caution. I would recommend only the trial of a quarter of an acre or of two acres at first, according to his disposable force; and all his wrong steps in the beginning with teach him the right ones afterwards. As to the quality of our wine, the most fastidious palate would regale with exquisite relish on the product of the vineyards of Messrs. Herndon, Burlingham, or Herbemont. I suppose I might with equal confidence recommend that of Gen. Bateman made on Old Scuppernong river, in Tyrrell county. But it must be taken into the account that we never see these wines perfect. They are all necessarily new; and inferior brandies are sometimes put into them: But if age could be had, and old *Nash*, or real *Cogniac* were used, instead of *bald white face*, they would be found as light, well flavoured and delicious, as any epicure could desire.

Select, as I said in a former number, a few vines, and but few. Let them be either native, or, if foreign, well proved and acclimated. To obtain a quick growth and early profits (a matter of great importance) the soil should be good and the preparations ample. The withholding of a few days' labour in planting may put back your vineyard a year or two in bearing, and make the product small forever after.

A light loomy soil, deep to the clay is best; rocks and gravel form no very material objection, but a clay or wet soil are inadmissible. Soils designated as pine and hickory, or chinquopin, or as cotton land, will generally be found good for vines.

Twenty feet distance is near enough to plant Scuppernong vines, and such of these as are found to be imperfect, do not grow well, or are bad bearers, should be cut away. In time, as they extend, a third or a half may be removed, but begin with enough to make proper allowances for accidents and bad management.

Choose for your vineyard a good sun and air exposure. Dig trenches to plant in, three feet wide, two deep and as long as you have time and labour to bestow upon them. Fill these with rich top soil and some oyster shells if to be had, but nothing from the stable. The trenches must not incline or the contents will be washed out. Plant in February or March.—Sets or layers are better than cuttings, but cuttings will succeed if great care is taken to insure success. They must be two feet long and all buried except one eye or two. Sets or layers must also be deeply planted, and all must be regularly watered for two seasons, and partially defended from the sun, care being taken not to exclude the air. The earth must be kept in tilth in the vineyard by some root or vine crop that will not shade or exhaust much, and more manure must be added than the crop draws away. When the vines begin to spread upon the arbors, this culture will neither be admissible or necessary. These, half rotted chips and straw, shells, grape offal, and any rubbish will be useful both as a manure and to keep the soil loosed; for trampling a naked soil would soon make it too hard for the vine roots to luxuriate in.

Sets may be obtained by planting slips in a nursery to remain a couple of years, which, when transplanted are to be cut down to the ground, but as much as possible of the root to be preserved. Layers, with fibrous roots enough of the first year's growth, to live and flourish may be had by bending vines down to the ground in spring or summer, and covering them near the extremities with earth. If slips or cuttings are planted they should be of the last year's growth, two feet or more in length, preserving an inch or two of the old wood on each side of the young shoot. This form of cutting is called a *malleolus*, from the resemblance it bears to a mallet.

A stake eight feet long should be set up a foot from the vine, which distance is necessary to avoid injuring the roots in driving it and to allow room to work. To this stake the vine is to be loosely but securely tied with grass or bark bands. Buds and forming sprouts about the roots and along the vine must be rubbed off with the hands, and no branches, of a size to be durable, must be allowed until the vine reaches the arbor. Knife pruning will occasion fatal bleedings in the spring, but in July and August it will be safe; yet hand rubbing, when and where practicable, is much to be preferred. It inflicts no wounds, and the growing process has no interruption. Richard.

MISCELLANEOUS.

(From the Village Herald.)

ON THE DESTRUCTION OF SNAKES; FOXES, OWLS, AND HAWKS.

Somerset county, Md. Feb. 7, 1832.

It is a remarkable fact, that, notwithstanding the serious injury done to farmers and sportsmen by the depredations of animals of prey, there is but little concern about the means of destroying them. This has induced me to bestow some attention on this subject, with a view to the preservation of poultry and game, particularly of partridges, and to give the fruits of my experience to the community, with the hope that it may awaken them to its importance.

Other causes, beyond our control, produce the destruction of game, such as the severity of the last and present winter—the ground being for a long time covered with snow, they perish for want of food. But the greatest havoc is made among them by the hawk, the owl, the fox and the snake, and the number of partridges and hares thus destroyed is astonishing. We are thus deprived not only of a great delicacy for our tables, but also of an abundant source of amusement to the sportsman.

I will now state the result of my experience and observation with regard to the character and habits of the snake, the fox, the owl, and the hawk, and the means I think best adapted to their extirpation.

1. Snakes of all descriptions, but particularly the *black runner*, destroy great numbers of partridges. This snake, as his name imports, is very active and industrious, and is enabled by his acute sense of smelling, to wind his prey at a distance, and also to trail them to their nests. He commits his depredations during the period of incubation, and after partridges are hatched and too young to escape him; and he does his work by wholesale, destroying the whole nest, the rudiments of a flock, at once.

The gun is the most efficient mode of getting rid of these animals. Let every farmer who attends personally to his farm, or if not his overseer, carry a gun whenever he walks or rides over his farm. This should be done from the time they make their appearance in the spring, until they disappear in autumn. The black runner is so watchful and active that he cannot be easily killed in any other manner. It would also be advantageous to every farmer, to give his servants orders every spring never if possible to let a snake escape them, and, as an inducement to effect this object, to offer a small premium for every one that might be killed and exhibited to him.

2. The Fox is too well known to need any observation as to his habits and capacity for mischief. His ravages are done to partridges at night, when they are in coveys. These birds use every precaution when going to roost, by flying for some distance and immediately gathering together, to prevent being trailed up to their covey or place of roosting. This, however, does not prevent the fox from discovering their place of retreat, which he does by winding them from a distance, and they will sit until he springs upon them.—The fox is also very destructive to hares

This animal should be hunted with a good pack of fox-hounds attended by judicious huntsmen, with which every neighbourhood ought to be provided.—But in places where hounds are not kept, they may be destroyed with *steel-traps* of a suitable size, baited with any kind of birds and placed in such places as they may frequent. They may also be killed by a trap called the *walking-trap*, which consists of two horizontal pieces of wood, one fixed on the other, confined at one end and sufficiently open at the other to allow the fox to pass through—a string to occupy the middle space, and one end tied to the setting stick, which keeps the two pieces of wood asunder, the upper piece being heavy enough to kill the fox, and something to be placed above to prevent him from jumping over. This trap should be set on a fence or fallen tree, which they are in the habit of passing over. I have known them to be caught in this way without bait. Another mode of catching them is to drive sticks into the ground so as to form a circle, covering the top and leaving an open space on one side, across which a trap is to be fixed and a bird or chicken deposited within. These plans may possibly succeed for a short time, but the proverbial cunningness of the fox will soon enable him to detect and consequently avoid them, so that I would by all means recommend as the only sure means of killing these animals, a well trained pack of hounds, whenever practicable, having myself never tested the efficacy of any other method.

3. The Owl is also a ravenous enemy to partridges and hares, and like the fox, does his work in the night, at which time his vision is clear and distinct, though impaired in the day. But little injury can be done to this bird with the gun, as he travels only in the night and hides himself closely in the day. But we are not without a remedy. The *steel-trap* is a sure instrument for his destruction. This is no other than the common rat-trap baited with a snowbird or sparrow. The process will be particularly described under the head of hawks, as it is suited to both cases.—They may also be caught in *stick-traps*, which will be described below on the subject of hawks.

4. The Hawk. This bird is continually on the watch while there is sufficient light for him to distinguish his prey. In dexterity in killing his game, in rapacity. perseverance and boldness in pursuit of it, he is unequalled. And he is more shy of the instruments used for his destruction than the owl.—The gun when properly used will be found a most useful implement for killing this bird. I have said that the hawk is shy—this is true when one is on foot, but far otherwise when mounted on a horse.—It is indeed surprising to see how the same bird, so shy of one on foot, will permit us to approach him on horseback, It may be affirmed that in four instances out of five, when perched on a tree, he will suffer one to come near enough to kill him. When once an opportunity offers, it is best to make sure work with him, or the bird will be alarmed, and such is his sagacity that he will ever after be shy, though one is on horseback. If your gun is not clean and properly charged, let him alone for another occasion, and fire always at his back or sides, as his breast will resist the shot. Every farmer and sportsman should have a horse properly trained to the gun, as there are but few horses that may not be taught to stand the firing of a gun, with a little practice.—They should be taught to stop at some given word or sign—Thus much for the gun.

The next and most effectual mode of destroying the hawk is the *steel-trap* above mentioned, of the same size used for the owl, baited in the same manner above described. The following is the plan I have adopted: a pole about six or seven feet long, driven in the ground, with a small piece of plank nailed to the upper end of it, on which the trap is to be placed, securely. All the materials used should present an old appearance, by no means bright or new. The small end of the trap should be secured to the pole by a strong string, otherwise large birds will carry it away; and the clasp which holds the trap open should be also tied at the smaller end of the trap, or it might slip and relieve the bird. Be careful that the trap is neither too easy nor too hard to throw, and that the teeth are not sufficiently sharp to cut the leg of the bird entirely off. The sparrow or snowbird, with the feathers on it, should be tied to the tongue of the trap by a small string. In cold weather one bird will last for eight or ten days, if not injured by heavy rains, but it should be removed whenever disfigured or dry. As to the situation of the trap it will depend much on the observation of farmers, remarking such trees as hawks frequent. Old trees standing in fields and fodder-stacks, are suitable places for them to perch on, near which, within twenty yards, the trap should be placed. Meadows, glades, and ditch banks are also convenient places for traps. The time to commence setting traps is October, and they should be continued until April, during which time any farmer who will attend to them will be amply rewarded for his trouble. And no farmer should be discouraged if he does not succeed immediately; it is only necessary to persevere and he will not lose his labour. The price of half a dozen steel-traps is $2 25 at most, these will serve for several years, and the trouble of attending them is trifling, for every planter in attending to the concerns of his farm, could attend to his traps without express visits to them. I will now mention a proof of the efficacy of the steel-trap. Being recommended to it by an intelligent gentleman and farmer of this county; I commenced on the 10th of January, 1831, and continued until March, during which time I caught twenty-five hawks and owls, the good effects of which I have fully experienced. I commenced again about the 10th of November, 1831, and have already caught and killed thirty-two hawks and owls and one eagle. The hawks this winter are few, compared to the last, and I am convinced they can be entirely extirpated in any neighborhood, if every farmer will follow the above directions.

Hawks and owls may also be caught in *stick-traps*, such as are commonly used for partridges, but of a large size. They should be baited with a bird or chicken and set in such places as are above recommended, great care being taken to conceal the design, by making them of old materials and scattering feathers around them to attract the attention of the birds. This is, however, by no means so effectual as the steel-trap.

In conclusion, let me urge the farmers and sportsmen of Somerset county to test the truth of the above observations by immediate experiment. It is true, the season is far advanced, still great numbers of hawks and owls may yet be destroyed, and I am induced to think that the reasonableness of these suggestions will be duly appreciated and the practical results speedily experienced by the community.

James Wilson.

(From the American Turf Register.)

Singular Method of Taking the Bear.

An officer of our army, on duty in the interior of Louisiana, observed at a house where he had put up for the night, several bear skins, and one of them particularly large. He entered into conversation about them, and received the following account of the manner in which one of the bears had been taken.

A man had gone out to drive in his cattle, a few days before, mounted, but with no other weapon than a cow whip. A cow whip consists of a stiff round whip stock about three feet long, supplied with a lash of twisted raw hide, nearly thirty feet long. The lash is coiled up to be used on the arm, and is thrown out with great violence by those who are expert with it.

While armed with this whip and hunting up his cattle, the man came suddenly upon a large bear. Thinking to have a bit of fun in the lone woods, he gave the bear a whack with his whip. Bruin growled and made battle, the horse sprang out of his reach with his rider, who gathered up his lash, closed again and gave another whack, and continued the contest in this way about an hour, the bear sorely annoyed and enraged, but unable to cope with the activity of the horse, who always sprang off after a throw of the whip. The bear attempted several times to climb a tree, but was as frequently brought down by a severe stroke from the formidable whip. At last he seemed to be bothered and disposed to beg off, and now for the first time, it entered into the head of the man to drive him to the house, which was about six miles from the scene of action. He commenced by heading him and whacking him with the whip when pursuing any direction but the one he wished him to follow, which poor Bruin, after some efforts to avoid it, quietly took, finding no peace in any other way. Getting him at last into a cow-path leading to the house, and flogging him severely when he left it, he got the bear to move moderately in the path, making but few efforts to leave it, and sure of a heavy whack whenever he did so. In this way he drove him until within hail of the house, and called to another man who was there, and this latter came out and shot him.

The officer thinking it an extraordinary adventure, took great pains to ascertain its correctness from several individuals who were at the house, two of whom were "in at the death." He saw also, the man who performed the feat, and who corroborated all that he had heard from his host. They spoke of it as no great affair, and assured him that with a good horse and one of those whips, they would undertake to drive a bear in any direction and to any distance. They were of the best class of frontier settlers, brave and enterprising, and without affectation or disposition to deceive.

(From the Genesee Farmer.)

STOCKING FISH PONDS.

It has been asserted that fish, if properly managed, may be restored to life after having been frozen hard a long time; that in this condition they may be conveyed a great distance with impunity; be then restored to life and animation perfectly, and when again placed in their element, will propagate and do well. This assertion, if true, should be made a public declaration for the benefit of all the lovers of trout and salmon in the new countries bordering on the Mississippi and the great western Lakes. The Michigan is said to include in its boundaries a great number of small silver lakes, many of which are fed by springs, and appear not to communicate with the larger lakes. These are supplied but imperfectly with fish; and no trout have been taken at all that we can learn. These lakes, if well stocked and protected, would, in less than ten years, contribute not a little to the many inducements to emigrate.

Fish may be taken at all seasons when they abound, and it is well known that trout and many fine varieties are taken in the immediate vicinity of Rochester. The Irondequoit and Allen's creek, and many smaller streams, furnish trout in abundance. All the bays and inlets on the borders of Ontario, contain pike, pickerel, and bass in great quantities, and some of the finest we ever saw are now in our market. As the dissemination of useful knowledge has always been your motto, please to state what you know in relation to this subject.
Piscinarius.

SINGULAR CIRCUMSTANCE.

The following curious particulars were communicated to me by Mr. Avery, a gentleman of this village, and supposing the circumstance to be rather an anomaly in the common routine of nature, you will, if you please, insert.

Mr. A.'s brother, a short time since, in felling a large *button wood* tree, at or near Hanford's Landing, discovered growing in the hollow of the tree, at the apparent altitude of eighty feet, two gooseberry bushes, very thrifty, and about three feet in height, the roots enclosed in decayed matter, probably leaves, &c, decomposed. He has re-planted them to observe what varieties they may prove to be

The seeds were doubtless deposited there by birds, as we think old Boreas could have had no agency in this *alliance*. At all events, the *liaison* is an obliquity, and the "match," however fructiferous it might prove, is but an "ill assorted" one. The poet says:

————————"How will the rose agree
With the dead hyacinth!—or the honey woodbine,
Circling a withered briar." L.

THE FARMER.

Baltimore, Friday, Feb. 17, 1832.

☞ We do not consider ourselves "connoscentis" nor "philosophers," but take leave to make a remark or two on the three *postulates* at the conclusion of Dr. Muse's article on cheat, in the present number. 1st. We have seen no sufficient proof of equal changes having been produced in other vegetables. The cases of the almond and peach, and the origin of wheat, are unfortunately selected as illustrations. There are no two vegetables the origin of which is involved in more obscurity. All the *history* we have on the subject is the result of mere conjecture. 2d. We have no *proof* that wheat is a factitious production, and therefore no reason to suppose that it can return to a primitive character other than that which it now possesses.—3d. We have no certainty of the correctness of the theory that cheat is degenerated wheat, because thousands of others equally "competent, veracious, and disinterested" witnesses, have been equally mistaken on much more simple subjects, and adopted theories, we must be permitted to say, equally absurd.

There is another view of this question which seems to have escaped the attention of those who believe in this singular theory, viz: cheat, *Bromus secalinus*, is a native of Great Britain; but in that country darnel, (*Lolium temulentum*,) is supposed by many to be degenerated wheat, as cheat is here, and hence the name darnel is sometimes applied to cheat in this country; the notion of the degeneracy of wheat to darnel having emigrated to this country with those who entertained it; but the darnel itself having refused to accompany them, the name and the character was bestowed on an entirely distinct plant, previously and at present held innocent of it in its own country, to wit, cheat or chess, or *Bromus secalinus*.

Does Dr. Muse intend to be understood as denying that the plant under discussion is *Bromus secalinus*, by the following remark?—"Some have assimilated this spurious growth to the 'Bromus' or cheat; some to the Lolium or darnel, and others to chess, and others to oats, to which they have severally fancied a resemblance." If he does, that certainly ends the discussion, for it is the question of the degeneracy of wheat to *Bromus secalinus*, (cheat,) that is under consideration. Does he intend to convey the idea that *cheat* is not *chess* by the same remark? If he does, we are compelled to say that he is mistaken; for we have examined carefully the *chess* of the northern states, the *cheat* of the southern, and the *darnel* (occasionally so called) of the middle states, and have found them invariably and identically the same, without a shadow of difference.

It does appear to us that the establishment of the theory that cheat is the offspring of degenerated wheat, would completely demolish the whole system of botanical science. We might then go to work and produce new vegetables at pleasure. If the delicious pulp of the peach has been given to the coriaceous shell of the almond, why may we not do the same with other vegetables? It is somewhat strange, that in this metamorphosis of the almond to the peach, it should have been deprived of its geminate inflorescence, and its kernel imbued so deeply with prussic acid, which is not present in that of the sweet almond. It may be said that the metamorphosis took place in the bitter almond, but we have as much proof that it was the sweet as the bitter. Besides, the almond and the peach belong to the same genus, while wheat and cheat belong to very different genuses.

The case of Indian corn cited by Dr. Muse, we consider not analogous. In that, the *monstrosity* occurred merely in the fruit and its position. The whole appearance of the plant was not changed. The stalk and the leaves were the same as other corn, and the fruit merely appeared on the tassel, ill-shaped, and without "cob or cap." We have seen it on the tassel even with a cob. It was a monstrosity—like the *exuterine* productions in the animal world, of which we have many authentic accounts.

In the case of cheat, there is a distinct difference of organic structure between it and wheat. Even the leaves are rough and the edges serrated, which is not so much the case in wheat. In conclusion, let us ask if cheat be the production of degenerated wheat, how do those farmers who carefully guard against sowing the seed of cheat escape its visitation, as we have many proofs is the case, even to the extent of its extermination in large districts of country? Of this latter fact we shall publish an instance in our next.

Bots in Horses.—We publish a communication from Peter Ellis of New Jersey, in the present number, on the subject of bots and the theory advocated by Dr. Harden. He certainly states some strong cases in illustration of the popular belief, and in opposition to that of the harmlessness of these insects. We are free to confess, that he has adduced more convincing testimony in favor of his position than any other writer we have consulted; and his proposition, that while the bots are confined to the insensible part of the stomach, they are harmless and even conducive to health, and only of an opposite character when they attack the sensible part, is the most plausible theory we have read on that side of the discussion.

Mr. Ellis seems to have misapprehended the tendency of our remarks on Dr. Harden's theory. We certainly did not say that insects do not "drain their support from living subjects." We have lived too long in a musquetoe country to be ignorant of the *sanguinary* propensities of this and other insects. We said that no animal eats living flesh—that is, that no animal eats the living muscular substance of another animal. That many insects suck the blood and other fluids of larger animals we never pretended to question. We, too, have seen hogs eat chickens, but they have always killed them, or nearly so, before they began actually to eat them. Large animals may eat very small ones, such as they can take into the mouth and crush at once; but we believe it rarely occurs, that a small animal actually eats the muscular fibre of a large animal while it retains its sensibility—all animals seem to have a repugnance to such a repast. Mr. Ellis agrees with us exactly as to the nature of the common food of bots—that it is the juices or blood, not the flesh of the horse's stomach.

Prices Current in New York, Feb. 11.

Beeswax, yellow 18 a 20. *Cotton*. New Orleans .10 a .12¼; Upland, .7½ a .10½; Alabama, .6 a 11. *Cotton Bagging*, Hemp, yd. 14½ a 17; Flax 13 a 14½; *Flax*, American, 7 a 8.——*Flaxseed*. 7 bush. clean 16 25 a 16·50; *Flour*, N. York, bbl. 5.75 a 5.87; Canal, 6.12 a 6 25; Balt. Hwd. st. 6.00 a ——; Rh'd. city mills —— a ——; country, 5.75 a 587; Alexand'a. 5.75 a 6 00; Fredericksburg 5.62 a ——; Petersg. 5 75 a ——; Rye Flour, 4 62 a 4.68; Indian Meal, per bbl. 3.37 a 3.50; per hhd. 15.75 a 16.00; *Grain*, Wheat, North, —— a ——; Vir. 1.12 a 1.14; Rye, North, — a 90; Corn, Yel. Nor. 62 a 63; Barley —— a ——; Oats, Sth. and North, .42 a 46; Peas, white, dry, 7 bu. 5. Beans, 7 bu. 7.00 a 8.00; *Provisions*, Beef, mess 9.00 a 9.25; prime 5.50 a 6.25; cargo —— a ——; Lard, 9 a .9½; Pork, mess, bbl. 13 50 a 14.00; prime 11.50 a 11.75.

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Now in Press, and will be published early in March,

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By HIBBERT & BUIST, Exotic Cultivators, Philadelphia, containing. Copious Directions for the cultivation of Ornamental Flowers and Plants, with full instructions for their treatment, in every month of the year, in the various departments of the Hot-house, Green-house, Flower Garden, and Rooms; also a description of the Plants most desirable in each, the nature of the soil and situation best adapted to their growth, the proper season of transplanting, &c. &c.

In this work considerable attention has been paid to correctness, and the botanical names are all accented according to the most approved nomenclature.

The volume will contain about 350 pages in 8vo. with a copious Index, and a well finished lithographic (coloured) print of the *Camēllia fimbriāta.* *Price* $2 00, with muslin backs.

☞The above work may be had as soon as published at the American Farmer Office and Seed Store.

GARDEN AND FIELD SEEDS.

J. S. EASTMAN has in 120 bushels CLOVER, the most of which is prime, and 50 bushels of Cow PEAS, TIMOTHY, Tall Meadow Oat GRASS, and Herd SEEDS, and a small quantity of English Lawn Grass SEED. Also just arrived per brig Hyperion an additional supply of Fresh Garden SEEDS; among them are a variety of best Garden PEAS and BEANS. His assortment of Garden Seeds are probably equal to any in this city, *and all fresh*, and which he will sell on reasonable terms at wholesale and retail.

He would also inform his customers. that he has on hand a large supply of PLOUGHS and other Agricultural Implements, which he trusts will sustain the credit of his establishment.

N. B. Persons making inquiry for my shop and are informed that there is no such person in this city in the Plough Business, will please continue up Pratt street to No. 36, between Charles and Hanover streets, where they will receive prompt and polite attention by their humble servant. J. S. EASTMAN.

APPLE SEEDLINGS, ORNAMENTAL TREES, &c.

SINCLAIR & MOORE, offer for sale 15,000 APPLE SEEDLINGS, strong plants, full two feet long, propagated from seed of winter fruit, and which would be a valuable acquisition to persons engaged in the nursery business, who are not in possession of a sufficient number of stocks to graft upon. *Price* $10 *per thousand.*

Also, ENGLISH ELM TREES, extra large; Italian White Mulberry, large size for silk or ornament; Abelle or Silver leaved Poplar, Catalpa, Paper Mulberry, Honey and Yellow Locust; Linden, Glacous and other Magnolias, Red Cedar, Arbor Vitae, Weymoth or White Pine, Black Spruce. Balm of Gilead or Balsam Fir, English Yew, Silver and Gold edged Tree Box; rooted plants and cuttings of the celebrated "Adlum's Madeira or Catawba," and many other kinds of Grape plants; Scions or cuttings for engrafting and planting of Apple, Pear, Plum, Apricot, Quince, Cherry, Currant, Honeysuckle, Jessamine, &c., Asparagus, Horse Radish, Hop, Sea Kail, Tart, Rhubarb and Dyer's Madder Roots. Althea, Corcoras and Roses of great beauty, among which is the Greville Rose, so justly celebrated, Raspberry, Strawberry, and Currant Plants, Hawthorn and Honey Locust for hedges. For other Trees and Plants, see catalogues, to be had gratis at their store, Pratt-st. wharf.

☞ A single laboring man, of steady habits, and who is acquainted with the nursery business, will meet with constant employment at their nursery. *Feb.* 10.

ENGLISH GOOSEBERRIES.

Will be received in a few days direct from Lancashire, England, five hundred GOOSEBERRY BUSHES, comprising eight varieties of the largest and finest kinds cultivated in that celebrated Gooseberry district. They will be sold in lots of eight, one of each kind, at $3; or by the hundred at $25, if immediately ordered—the season having arrived for planting them out. As such an opportunity seldom occurs for obtaining so good a supply of Gooseberries on such terms, persons fond of this excellent fruit, are advised to avail of it.

Apply at the American Farmer Office and Seed Store, Baltimore. Feb. 17.

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WM. PRINCE & SONS, Proprietors, announce that the great extensions made in their Establishment, which now covers near fifty acres, completely filled with the choicest TREES, SHRUBS AND PLANTS, enable them to offer the various kinds at the reduced prices stated in their new Catalogues, which will be sent to any person who may apply for them. The size and excellence of the Trees exceed all former periods; and the most scrupulous attention has been devoted to their accuracy, which is invariably an object of their personal attention. To Nurseries they will allow a liberal discount and convenient credit. All letters desiring information will be replied to by the first mail. As many persons are agents for different Nurseries, it is requested that orders intended for us be particularly specified. Every Invoice sent has a printed heading and our signature, and such proof of origin must be insisted on, as we take upon ourselves no responsibility unless such an invoice can be produced.

Their Treatise on the VINE, describes 280 kinds of Grapes and their culture:—Their Treatise on HORTICULTURE contains descriptions of a great variety of TREES and PLANTS, and directions for cultivating them;—and their Pomological MANUAL, just published, contains full descriptions of above 600 varieties of PEARS, PLUMS, PEACHES, CHERRIES, APRICOTS, NECTARINES, ALMONDS, &c. besides other Fruits, so that all persons can make their selections, with a knowledge of the qualities. Apply at the American Farmer Office and Agricultural Agency, Baltimore.

THE HORTICULTURAL GARDEN OF THE LATE ANDREW PARMENTIER, IS OFFERED FOR SALE.

The reputation of this establishment is not confined to the vicinity of New York, but is well known throughout the United States, and different parts of Europe. It is situated two miles from the city of New York, at Brooklyn, Long Island, at the junction of the Jamaica and Flatbush Roads, and contains 24 acres.

The Grounds are in a very high state of cultivation, and laid out with judgment and taste. The situation is very healthy, and the view very extensive, commanding the bay, the city, &c. The Garden is enclosed by a pointed stone fence, and inside of that is a hawthorn hedge. The Nursery contains a fine and extensive collection of Fruit, Forest and Ornamental Trees; also, a splendid collection of Roses and Herbaceous Plants,—the object of its late Proprietor having always been to collect every new variety.

On the premises are a Dwelling House, two Laborers' Houses, seven Cisterns, and a never-failing Pump of excellent Water—four Green and Hot Houses, containing a rich variety of rare exotics.

The advantages to be derived by any person who wishes to engage in the occupation of Gardening, by the purchase of this property, are very great; the business already secured is very extensive, and the prospect of increased encouragement is such as to warrant the belief that the purchase of the property will amply repay the enterprise of any one who may engage in the business.

Terms will be made known by applying to Mrs. Parmentier, on the premises.

N. B. Mrs. P. will receive and execute all orders.
Feb 10—6t.

BALTIMORE PRICES CURRENT.

Baltimore Market.—There is a general depression in the flour and grain market, owing measurably to the long continued unfavorable weather. The wagon price of Howard street flour remains at $5; little doing from stores. Wheat has declined still further, and sales have been made of this and other grain at our quotations. Wood, wool, and beef are stationary.

Tobacco.--Seconds, as in quality, 3.00 a 5.00; do. ground leaf, 5.00 a 9.00.—Crop, common, 3 00 a 5.00; brown and red 4.00 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 10 00; yellow and red, 8.00 a 14.00; yellow, 14.00 a 16.00.—Fine yellow, 16.00 a 20.00.—Virginia, 4.00 a ——.—Rappahannock, 3.00 a 4.00——Kentucky, 3.50 a 8.00. The inspections of the week comprise 94 hhd. Md.; 9 hhds Ohio—total 103 hhds.

Flour—best white wheat family, $6.75 *a* 7.25; super Howard-st. 512.½ *a* 5.25; city mills, $5.00 *a* ——*a*——; Susq.— *a* —; Corn Meal bbl. 3 50; Grain, Md. red wheat, .94 *a* 1.00; white do —— *a* ——, Susq. — *a* —Corn, white, 39 *a* 40—yellow 39 *a* 40—Rye, 75 *a* ——Oats, 33 *a* 36.—Beans, 75 *a* 80—Peas, 65 *a* 70—Clover-seed 5.75 *a* 6.00—Timothy, 2.00 *a* 2.50 Orchard Grass —— *a* ——-Tall Meadow Oat Grass 2.00 *a* 2.50---Herd's, 75 *a* 1.00--Lucerne — *a* 37½ lb.—Barley,—Flaxseed 1½ *a* 1 5-8-Cotton. Va. 7½ *a* 9-Lou. 9 *a* 12—Alab. 8 *a*. 10—Tenn. .7½ *a*. 9; N. Car. 8 *a* .9½-Upland 9 *a* 10--Whiskey, hhds. 1st p. 31½ *a* 32; in bbls. 33 *a* 34——Wool. *Washed*, Prime or Saxony Fleece 49 *a* 57; American Full Blood, 40 *a* 45; three quarters do. 36 *a* 40; half do. 34 *a* 36; quarter and common do. 30 *a* 34. *Unwashed*, Prime or Saxony Fleece, 30 *a* 34; American Full Blood, 26 *a* 28; three quarters do. 24 *a* 26; half do. 22 *a* 24; quarter and common, 18 *a* 22——Hemp, Russia, ton, $225 *a* –; Country. dew-rotted. 5½ *a* 7c. lb. water-rotted, 7 *a* 9c.—Feathers, 37½ *a* 38; Plaster Paris, per ton, 4.75 *a* ——, ground, 1.37½ *a*— bbl. Iron, gray pig for foundries per ton 33.00 *a* ——; high pig for forges, per ton, 28.00 *a* 30.00; bar Sus. per ton, 72.50 a 80.00.—Prime Beef on the hoof, 5.50 *a* 6.00—Oak wood, 4.00 *a* 4.50--Hickory, 5.00 *a* 5.50.

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AGRICULTURE.

IMPROVEMENT OF WORN OUT LANDS.

First Premium Essay, Agricultural Division.

BY R. K. MEADE, WHITE POST, VA.

Mr Smith: *Lucky Hit Farm, Frederick Co. Va.*

If your liberal, valuable, and appropriate offer of a free and perpetual subscription to the American Farmer to the most successful essayist on the important subject of the improvement of poor land is not met with a correspondent spirit and exertion on the part of us farmers, it will indeed reflect no great credit on them in their professional way, but on the contrary, evince a deplorable negligence of the theory and practice of the principles and improvements in Agriculture. Merely for the advantage to be derived (though worthy of attention) or the honour of success, it cannot be supposed that there are many men of liberal minds who would exercise them on the occasion. It is true the labourer is worthy of his hire, and honours are sweet to the soul—but what comparison shall money making or saving, or the gratification of applause even when the best motives and designs are employed, to the consciousness of endeavouring to do good for the sake of it—for the present and future effect upon the prosperity and happiness of society. Seriously speaking, sir, reform without any dependence, connection, or allusion to the miserable contentions (never springing out of the employments in agriculture) appears to be the order of the day. Mankind is divided into societies to promote the good of man—their influence has been felt throughout the world,—beginning with religious associations, they purify and reform as they more widely extend, and in turn are corrected of those misconceptions which have disgraced the purity of religion, by the enlightening, liberalizing, and improving spirit of the age. Education next, and all the improvements in our moral and social relations, receive their impulse from these happy divisions in society. All but agriculture, the parent of them all, struggle for a more creditable existence in contributing their little fund of knowledge and science in their several departments. Why not then have societies for the improvement of poor, or worn out lands, for the amendment of the constitution of the soil, as well as for the reformation of the moral and physical constitution of man? Knowledge in agriculture, as well as in all other matters, must first be collected, then diffused—there must be writing, reading, conversation—there must be some mode ascertained to be best, and then pursued with diligence.

But before we enter on the laborious and systematic improvement of the poor and gullied fields, permit me to indulge, sir, for a moment in some of the privileges and advantages of our American agriculture. We are a nation of land holders, not tenants, and should indeed be proud of it, and thankful for it.—Whoever fails to improve his acres in this our happy land, must labour under some extraordinary misfortune, or disgraceful, and fatal malady.—We have more liberty and happiness than our virtue and industry merit,—our poor lands are chiefly the offspring of bad habits, which will be proved in the course of our essay—still as a nation of independent cultivators, living unoppressed under our own vine and fig tree we triumphantly sing, in republican style:

"Let Europe be proud of her seats so imperial,
Her kingdoms, her cities, her palaces fair;
And boast that all nature her treasure doth there fill,
To cherish the census of monarchs, so rare!
While thus each fine trav'ler his home makes the most of,
In praising Mount Vernon we are surely not wrong,
Mount Vernon containing what thrones cannot boast of,
Dear Liberty's guardian, the theme of our song.
Let aristocrats boast of their high sounding titles,
Their dukedoms, their lordships, and marquisites grand;
All raised by devouring the honest man's vitals,
By fraud and oppression in Slavery's land.
As for us, truly blest with republican spirits,
We'll sing of Mount Vernon for there doth belong
One matchless in glory and each godlike merit,
We mean the great Washington, theme of our song."

Whatever our failings and misfortunes may be, and it would be as vain to deny them, as unnecessary now to avow them—thanks be to heaven, we have but one master, He reigns in the skies—a terror to evil doers, but the eternal friend of virtue and of liberty—the guardian of those immortal patriotic spirits who subscribed the declaration of our independence, and have gone hence to be seen no more, with their great leader, Washington, at their head. One still remains to honour and gratify the affections of an admiring people. The time was, when scribblers, especially amongst our English ancestors, made a formal dedication of their productions to some individual celebrated for wealth and family, or genius and learning, sometimes for virtues and real worth—inscribed to his or her mighty highness, &c.—whether to kings, queens, princes, dukes, marquises, earls, or what not, where titles have been more abounding in the higher classes than really useful characters. None of this can ever be in our plain republican system—but it is hoped there can be no possible objection for an humble essayist in agriculture, whose greatest ambition is that of assisting to pioneer the road to greater perfections in the art, to allude to the distinguished virtues, and revolutionary services of Charles Carroll of Carrollton, the last of the seventy-sixers, the companion of Washington and Fayette—the pure, retired, unostentatious, unambitious republican, with the view of attracting to the principles of this important agricultural topic, friends, who will respect it the more through a veneration for this distinguished individual—followed by the names of Fayette and Madison. The former, who must have been born a republican, though raised in a monarchy—America's sincere friend—successful warrior of the revolution—consistent republican in all times and under all circumstances. The latter, irreproachable in private life, sage and consistent in council from the beginning to the end of the chapter—confirming in his grey hairs what his youthful talents and patriotism originated—thinking of and construing to the last moment the constitution of his country—if the glorious fourth should issue its honourable and awful summons for this ex-president also, may it indeed approach much nearer the close of the nineteenth century. And whoever shall forget the name, services, and talents of John Marshall deserves no longer to live in a land of liberty and laws. All of them farmers.

But let us view this farmer of Carrollton in the character of a Cincinnatus—especially as he volunteered from his retirement to associate with us boys in agricultural improvements, by offering a premium for the best essay on the value of working oxen instead of horses. A few such examples from persons of influence, might lead on to donations and bequests sufficient to sustain the drooping head of the Maryland society, and afford a permanent stimulus to the agriculture of the state. Agriculture, and institutions for its improvement, stands in much need of the sympathy and active benevolence of friends. If all other institutions depend chiefly upon the success of agriculture, how can the importance of reforming the morals and improving the intellect of the cultivators of the soil, to fit them peculiarly for the profession of farming be doubted?

Having perhaps, already wandered too long from the direct subject of our essay, we will now attempt a plain matter of fact affair, hoping that chemical and scientific gentlemen will associate their learned acquirements with all the practical facts they may treat on—may give us a scientific why and wherefore for all the experience they may exhibit, whether immediately their own or a neighbour's—but never permitting fancy or imagination to usurp the place of reason and judgment.

The fact, of the existence of an immensity of poor, gullied, and unproductive land, is too broad, long, and deep, to require any thing more than mere assertion. Could a calculation be made of what portion of the land which has been cleared in the United States for the last two centuries, it would no doubt appear on a comparative survey that tens of thousands of acres have been effectually destroyed—that other tens of thousands have been laid by for some generations—that hundreds of thousands have been so reduced by injudicious cultivation that its owners merely live from hand to mouth, and are continually debating whether they shall hold out a little longer, or remove to a new country. Nor could they in our southern country long hesitate which of the two to choose, while the soil is progressively growing worse, were it not for the yearly sale of some of their black family, who are sent to the south-west to impoverish wherever they lay their destroying axe. Another large portion of our territory is cultivated merely in a saving way, not improving—and this applies to the whole country, though in truth, too specially to the slave holding states—there remains then, if we had time to consider the intimate divisions of the improving part of our agriculture, the farmer, who lives by moderate industry, keeps a little a head—is willing to learn and improve—educates his children well—is a good neighbour, and is perhaps the best citizen. There are, lastly, two classes of money-making farmers, who occupy a comparatively small portion of the soil—the one who fertilizes as he advances in wealth—the other who spreads over the land accumulating by great industry, perseverance, and economy. Those farmers are rare who may be termed scientific, but such there are occasionally, who demonstrate the immense importance of applying undivided talents to explore the natural resources of a tract of land. I had the pleasure of knowing such a man, Richard P. Barton, of Springdale, Frederick co. Va.—and it is well known to many that the land he purchased and occupied for fifteen or twenty years was improved four times in value, and the face of nature entirely changed; but the beauty of it was, that while these improving scenes were in progress a large family was raised and educated for various professions. Hospitality, always liberal, and a readiness to communicate agricultural knowledge to all who would seek it, were conspicuous in his character. If the celebrated Mr. West, of Pennsylvania, merited a eulogy for enriching 100 acres of land, what are the deserts of this gentleman for improving three or four hundred? Where there is one farmer pursuing a course of management with a judgment that bears a respectable comparison with the mode that nature and propriety would point out, there are a hundred who sink infinitely below it. Now, admitting such a state of things to be real, (which cannot be doubted) is it not of the greatest importance to inquire most seriously into the causes of it, and apply all the remedies in our power. What are the moral causes of this deplorable state of our agriculture, especially in our southern country? The answer is, ignorance of the business, and too general an impression that a man who has not a capacity for any thing else will make a good farmer. Indolence, a too free use of ardent spirits, the fertile source of a multitude of evils, not confined in its dreadful effects to agriculture alone, but pervading every department of life;—and lastly, slavery, slavery. It will be more easy to prescribe the remedies than to apply them with effect, but, it will be inexcusable in those who know how to place even a moderate estimate on the value of morality and religion, social order, and the prosperity of our republican institutions, not to make an energetic and consentaneous effort. Our universal enemy being ardent spirits, let private societies, as well as legislative enactments, do all in their power to drive him out of the land; let total abstinence from it be the watchword, especially with farmers.

Slavery, though more *local* is not less injurious in its effects,—however concomitant in their mischievous acts, there is a fierce contention between them who shall do our country the most harm. Let *colonization then, by liberal* appropriations, and a profound forecast into the effects of a scheme for a gradual emancipation, be discussed in our private circles and legislative halls; and let every man, especially a slave holder, put this question to himself: Should I not abstain from the use of ardent spirits, if it could be proved to my satisfaction that the united savings from such abstinence and economy would in a reasonable time rid my country of the curse of slavery? in a proper place such proof is at hand—go to the temperance reports. It is my business to prove that the poor lands and gullied fields would in the course of that time be greatly restored to their original fertility; that the absence of strong drink would clear the head for judicious planning, and nerve the arm for diligent action—when industry will take the place of indolence, and education, peculiar and appropriate, prepare the intellect for a more thorough investigation of the resources of land in its great variety of production.—The improvement then of poor land must have the aid of moral and intellectual, as well as physical and laborious means. The plain view we mean to take then, in the application of what is termed moral means, is the withdrawal of one stimulant and the substitution of another, namely, the abandonment of ardent spirits, for a system of agricultural education—and their effects, stupidity, sloth, and vice in every shape—for energy, industry, and the ennobling and inspiring practices of agriculture. Apart from the numberless scenes of rude dissipation to which our farmers are drawn by whiskey, rum, and brandy, &c—compare the man who takes his nightly draft when its effects are no longer to be witnessed, but only felt as an opiate to prevent his rising at the dawn; he goes into his fields at a late hour, having given no previous directions to his labourers, not anticipating a change in the weather, and finds them at some unsuitable work, if they have not indeed followed his example in lying abed. The work is immediately ordered to be changed—much blustering and railing—swearing and tearing, if not heavy blows take place—a considerable loss of time is the consequence—and peradventure there is no order or arrangement throughout the day, as a morning's dram is sought with more avidity than an opportunity to retrieve the first error. The meridian sun, whether hot or cold, must not be forgotten—the bottle, the bottle—and if it proves no more than a stimulus to urge the labourers on to greater exertion, it will be fortunate; but every thing like fore sight, calculation, and arrangement, is entirely out of the question. Is it wonderful then, that this maddening course should have destroyed so much fine land—broken the hearts of so many amiable women, and beggared their children? Follow now, the cold water man, from the dawn of day to the setting sun—if he is educated, if he has a heart to feel or a soul to be inspired, he rises with a song of praise upon his lips—

> "When all thy mercies, O my God,
> My rising soul surveys," &c.
>
> or,
>
> "Awake my soul and with the sun
> Thy daily course of duty run," &c.

pursuing these sublime reflections until the mind is prepared and sweetly tranquilized for the performance of the duties of the day; for however charming the scenes of rural life are acknowledged to be, it has its trials and temptations too. His labourers know his habits and meet him at the appointed place. Like a wary sailor he looks up and around, and resolves on the duties of the day—his orders are given with mildness and obeyed with alacrity;—all goes on smoothly and industriously—his labourers are well clothed and fed, and have no stint of the clear, cold spring water, and occasionally a glass of pure currant wine, cheaper and far superior to whiskey—(currant wine can be made for twenty-five cents per gallon; whiskey seldom less than thirty or thirty-five cents, and we have to harrass our lands in corn to pay for it. This kind of wine is esteemed by physicians more wholesome than the foreign wines; can be made in our own country to any extent, with little or no risk in its manufacture, and may be retailed to advantage for less than the ordinary price of whiskey, rum, and brandy.)—We should have followed, for the sake of example, the drinking, indolent, immethodical, and desolating farmer, in his habits, and through his fields at the different seasons of the year, but the road was too unpleasant to travel; to be torn to pieces with brambles, pricked with thistles, life endangered by some fierce animal which should be domestic, and finally perhaps to be tumbled into a deep gully with a broken leg or arm, is more than an ordinary farmer can bear—we will therefore bid adieu to such, hoping they will repent, lead better lives, and adopt better systems of farming. But not without giving the whole farming interest a full and fair notice that if they are not on the alert, the army and the navy will be before them in the truly patriotic and godly purpose of lessening the evil, and we hope finally putting down the use of ardent spirits in toto.

As one of the indirect means of improving poor lands, it is earnestly recommended to pursue the cultivation of the vine, and currant bush—the vine so abounding in its variety, may be adapted to our differing soils and climates—and the currant so remarkable for its health, hardihood, and far less discriminating choice of where it shall be planted, will succeed in most places,—I have ventured an opinion whether ignorantly or not, that the currant will, upon the whole, succeed better than the grape in North America for the manufacture of wine. One-fourth of an acre tolerably cultivated, will make more than 100 gallons of wine, enough in reason for a family of ordinary size—it will take from 4 to 6 acres of corn or rye to purchase half that quantity of whiskey, frequently double and treble that quantity of land. Then put your poor corn land in grass to improve it, and with the hay feed your cows. Where much whiskey is drank there is little milk—little comfort—the necessity is produced of giving more meat in the absence of milk;—this draws on the corn for the hogs—and on the poor land for the corn, and so we go, getting poorer, and poorer, all, who do thus—is it not the case, my hospitable southern friends? The race is run—the game is up with many of us—others are rapidly approaching the same goal, while the rest are slowly travelling on, but surely to destruction. I do not mean the whole, for in the revolution of the wheel of fortune, which is indeed improperly named, for it is judgment, industry, and economy, that makes one portion of the community rich while the other is growing poor, some are up while the others are down. Through indirect measures we are now about to enter the field of apparent, and substantial, though graduated improvement, for it must not be expected that the destroying work of years can be repaired in a day—it is of as much importance to know, what not to do, as diligently to proceed in the labours of doing—and now we are surrounded with such a multitude of unarranged facts or ideas that we scarcely know how or where to begin;—but at a venture, enclose your land; keep little stock, and make a large proportion of manure for the number of that stock; the great and important desideratum is, how this shall be done, and then how applied, what the depth of ploughing to suit the soil, &c. &c. The improvement of poor land being so intimately connected with and dependent on all other matters pertaining to agriculture, it may be difficult sometimes to say whether our essay, is not on the subject of manures, stock, ploughing, principles of agriculture, &c. But we shall endeavour to bring all these to bear on the main subject in as brief a manner as possible.

The principal modes of improving worn out land, where only the ordinary facilities are at hand, are these:—enclosing, ploughing or harrowing, when necessary; manuring, intermixing soils, turning in green crops; or on light lands letting them fall on the ground, treading them down. Extraordinary facilities, such as large bodies of vegetable manure or alluvial soil may be employed to so much advantage, that a sure and certain calculation may be made of the result; but long habits of killing land seldom permit such opportunities to be properly improved. We thus see that the restoration of worn out land involves considerations, and the use of materials to be drawn from every department in husbandry. Rest, which affords an opportunity to discover the propensities of land, be it ever so poor, is essential to its improvement, is the introductory process of reformation, the necessary index to subsequent operations. Good fences then, are required to insure the success of the inclosing system—the season, soil, and circumstances, must then determine what implements should be used to get in a liberal portion of grass seeds well mixed, if it has not been previously ascertained that certain grasses are best adapted to the soil—an application of one fourth or one-half bushel of gypsum should then be spread per acre; in due time the capacities, or deficiencies of the ground being discovered, proceed in the use of the plough, &c. In preparing that portion of the field which has not taken with grass for a crop of small grain, to be sowed very thin, with the usual allowance of grass seed, harrowed in with the grain; to insure the success of the grain and grass crop, this land, must all be manured with well pulverised manure on the rough ploughing and harrowed in; any other mode of applying manure to dead poor land would be a complete sacrifice of the manure, and a consequent loss of the crop—that is to say, if the manure is not applied in a well rotted fine state, in a careful and regular manner to the surface of the soil, and well mixed with the harrow, in the earth where the seed will derive an immediate benefit, the experiment would fail; for it must be evident that the same manure spread on the earth and turned under, would be lost in its effects on the crop to be sowed, and to the immediate and future improvement of the land—this course under such circumstances does not in the least clash with the propriety of spreading our half rotted barn yard manure in the spring on our better lands before ploughing, and turning it in to prevent as much as possible evaporation; undergoing its full decomposition for the benefit of a corn crop. I think we shall shortly prove, however irregular and unpolished may be the mode, that any outcasts from other professions will not be likely to succeed as farmers—they too generally, help on the work of destruction; seldom renovate by intelligence and industry, as they might have done, if the incurable vanity and unfortunate misconception of their parents, with the interested acquiescence of teachers, had not forced them against wind and tide, and capacity and inclination too, to pursue the phantom of greatness in political life, through the loss of many valuable years in the study of languages and professions never to be prosecuted. This is another of the fertile sources of the poverty of our lands—none will doubt it who have read, travelled, or conversed with mankind. Indeed, the most ignorant clodhopper will tell you by his unavoidable experience and observation, that such men rarely succeed in improving land. Shall we then heedlessly go on, ignorantly, to destroy more and more as we advance upon our noble forests and rich hills and vales, or rather, by a rational change, retrace our steps and apply our talents and strength to the recovery of our worn out lands. Establish then institutions of learning on the basis of agriculture. If it is necessrry to your convictions, prejudices, or inclinations, incorporate the study of the languages, with that substantial system of education which may indeed be perfected in one. That salutary system which will best suit a nation of republicans, making the study of the scriptures as they are in plain English,[*] the foundation for our morals and religion—the book of nature, and the history of man explored and unravelled by science in the unquestioned demonstrations of mathematics, by the chemist and philosopher—and the records of the historian.

(To be continued.)

CHEAT OR CHESS.

Mr. Smith:

Having noticed a discussion in your paper, of the question whether wheat changes to chess or cheat, I thought it might be useful to your readers, to lay before them, some facts that have fallen under my observation on this and analogous questions. It is hoped the discussion may lead to decisive experiments, if the truth cannot now be settled.

In the part of Maine where I reside, wheat is raised in small quantities, scarcely sufficient for consumption of the farmers and their neighbours, this is almost exclusively spring or summer wheat. I have never heard any complaint of that kind changing to other plants, nor did I ever see or hear of any such plant as chess or cheat there. If any exists, it must be so inconsiderable; that it attracts no general notice. But an impression prevails there, that *winter* wheat will and generally does turn to *rye,* and that is one reason the farmers assign for not attempting its culture. When I moved into the town where I now reside, about fourteen years ago, and first heard the idea suggested, it appeared so incredible to me, that I was induced to inquire particularly into the facts that led to or confirmed the impression so generally prevalent, and I must confess, that many of them were from such sources of veracity and intelligence, that they shook my confidence in my own opinion. They were as strong, perhaps, as any adduced to support the idea that wheat turns to chess. My own opinion was, and still is, that the appearance of a change of wheat to rye arises from the fact, that the wheat plant is less hardy and able to bear the cold of our winters than the rye plant; that the small quantity of rye usually found mixed with the wheat, vegetates, and the winter killing the wheat plants, spares the rye to branch and come to maturity. Yet, many facts related by intelligent farmers, could hardly be accounted for in this way.

I am not a practical farmer, though I was brought up on a farm, and in early life attended to farming. Being in the north-west corner of Maine near Canada in 1828, where they raise winter wheat, I put a handful in my pocket for the purpose of making an experiment. It was the bald or beardless wheat, and what I suppose, forty or fifty years ago, was raised in Maine successfully, and then called Siberian wheat, though in this, I may be mistaken. The next fall, 1829, I sowed this in my garden in drills very late, in consequence of the dryness of the season, so that it had just sprung up to be seen when the winter set in. It, however, stood the winter and grew well. There were a very few stocks of rye among it, which might have sprung from a few kernels of that grain that escaped my notice. I carefully pulled these stocks out. The product, a quart or more I sowed in 1830 in my garden broadcast, on a little plat where I had raised some potatoes. It covered the ground very thick and stood the winter perfectly. It was free from rye and produced about five pecks of very fine wheat. The two last seasons have been considered very poor with us for wheat, especially that of 1830. I have sowed half a bushel of this on some burnt ground cleared for the purpose, and another half bushel on ploughed ground in an old field. The unfavourable state of the weather prevented sowing it as early as I intended by several weeks, so that it had just made its appearance when the early winter covered it with snow. Should it survive this severe winter, the experiment will go far in its result next summer to settle the question one way or the other. Thus far it has answered my expectation; but, I intend to pursue it till all doubt is removed.

I formerly lived in another part of Maine near the sea-board, where wheat was so uncertain a crop, that very little was raised, and barley was the principal small grain cultivated. A notion extensively prevailed there, that *barley,* when cropped or trodden down before it headed out, would turn to *oats.* It was found by those careless of their seed, that oats increased so much on their barley, they had every few years to procure new seed from those who took more care to keep their seed clean. This change in their crops yearly, they attributed to some injury, such as I have mentioned.

When a boy, I have seen experiments tried on barley, by cutting and breaking it down, and indeed, as I passed by it to school, often made the trial, but never found any thing but barley in the revived plants. I could account for the apparent change by the fact, that oats were more productive than barley and where a few kernels of oats were among the seed barley, the oats gained upon it. Whether the notion of the change of barley to oats remains there, I know not, but am inclined to think, the error was generally exploded before I left. There was another opinion prevalent there, the correctness of which I know not, that wheat mixed with barley in nearly equal quantities was less liable to blast or rust, the most common diseases incident to it, than when raised by itself. My father always raised some in that way on his best ground when he could sow it early. It was curious to observe the changes, that in different years would take place in the relative proportions of the two kinds of grain. Some years and successions of years would be more favourable to the wheat, and then it would increase upon and nearly choke the barley. In other years, and oftener, the barley would do the same to the wheat; and in scarcely any year would the crop bear the same proportion to each other that the seed did.

I mention these facts to show what erroneous opinions will sometimes extensively prevail, and to show how they may have taken their rise.

To return to chess, on inquiry of a gentleman who lives in another part of Maine, where wheat is more largely cultivated than where I live, he informs me that many years ago, chess was known there and was very troublesome to their wheat, and that they got rid of it entirely by cleaning their seed in sieves and shovels made for that purpose. He says that he has not seen nor heard any complaint of it for nearly twenty years. He is a grower of wheat himself, and implicit confidence may be reposed in his statements.

CHEAT OR CHESS.

Mr. Smith: *Pomonkey, Md. Feb. 11th,* 1832.

Although my experience in agriculture does not justify my expressing an opinion upon any subject connected with it, yet I read with great pleasure all suggestions coming from others, and I take no little interest in the very valuable discussions in your useful paper. The subject at the head of these few remarks has often been discussed without enabling the naturalist or the agriculturist to come to any certain conclusion, and in your No 46, published upon the 27th of January last, a writer who signs "David Thomas" has spoken upon the subject with a confidence that does not satisfy my mind. Not feeling myself capable in any one respect to enter the list of combatants with that respectable and experienced writer, I take the liberty of requesting you to publish (if it has not already appeared in your paper) the following remarks over the signature of F. which were written some years ago by the late Col. James Fenwick, of Charles county, in this State, a gentleman of great respectability, experience and talents. They appear to have been written in reply to some writer in a newspaper upon this same subject so ably commented upon in your No. 46.

Yours most respectfully, B.

WHEAT TURNED TO CHEAT.

Mr. Editor:

A writer in your paper of the 28th of September, 1822, has advanced the opinion that a grain of *wheat* sown and germinating will not turn to *cheat,* and he has supported this opinion certainly upon plausible reasons and grounds, but *observations* have led the writer of this to a different conclusion, founded upon the following *facts:* In the year 1787, or 8, or 9, (not distinctly remembered which) the month of February and the greater part of March, were uncommonly mild and congenial to the vegetation of wheat, which in this district of country (Charles county, Md.) had put forward much and offered a very promising appearance for a good crop. Towards the last of March, there was a fall of snow of some inches deep, followed by a rain which liquified the snow, and a freezing north-west wind coming on, the whole was converted into a crust of ice, upon the surface of the ground; after that, the before promising fields of wheat, presented the appearance of grass parched and scorched by a long summer drought. In *that year* the complaint was general and universal in this part of the state, of an unusual and singular proportion of *cheat* or *chess* among the wheat. It was not uncommon to hear experienced farmers complain in a mode of speech (rather Hibernian to be sure) "that half of their *wheat* or more was *cheat!*" The writer was particularly in the habit of visiting a friend possessed of a fertile and well cultivated farm, which had rarely failed to yield a large product of fine and perfect wheat, and upon which farm *cheat was never know to grow* and the greatest attention was paid to the *seed wheat,* it being his custom to have it all well picked by the hands, of which he had a large number, for fear that something improper might become accidentally mixed with it. The wheat of this gentleman, in the year alluded to, was uncommonly advanced for the season at the time of the snow, rain and sleet mentioned, and soon after presented a most *desolate appearance.* The writer received the assurance of his particular and very observant friend, that *no cheat was sowed with his wheat,* and it was in a field where he had *never seen a sprig of cheat,* yet that year more than *two thirds* of his field was covered with *cheat* in the place of *wheat,* and besides, the *grains* of the wheat that was standing, *were more or less shrivelled and imperfect,* there being scarcely any full, plump grains to be found in the fields. The crop was not gathered it was so indifferent.

Admitting the truth of the preceding *facts,* which the writer vouches for, and which are known and can be testified to by the neighbourhood, how is it to be accounted for that generally unusual proportions of cheat in no inconsiderable section of country, and in particular upon the farm alluded to, in that year, except upon the theory, *that great injuries to the wheat, in a particular state of its growth, may alter and vitiate its nature, as it were, and metamorphose it into a degenerate species?* And this is in the course of nature with many things, particularly vegetables. Is it probable that the farmers generally in an extensive neighbourhood, should have *all* been so unfortunate, as to sow a very unusual quantity of cheat in a particular year, and especially as the previous crop out of which it was seeded was no ways injured by the cheat? How to account *first* for the quantity of cheat, and *secondly* for the meagre quality of the grain of the particular farm referred to, otherwise than by supposing that where the injury was not sufficient to operate complete degeneracy, yet it was sufficient to deteriorate the quality of the grain of what was not totally vitiated in its nature. That the crop upon the farm referred to, was not only unusually vitiated in its nature, but more deteriorated in its quality, than was common to others within the sphere of my observation, is to be ascribed to the more advanced stage of the herb, at the time it received the injury.

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[*] This recommendation is not intended in the least to interfere with the promotion of institutions for ancient literature, which it would be as presumptuous to undervalue as derogatory to the taste of a friend of literature, which perhaps is further to be explored, through the study of ancient tongues—but simply to express an opinion that nine out of ten, perhaps ninety-nine out of a hundred, will do better to comprehend well a single language.

I will state another case. Walking sometime in the last summer, over a farm with a gentleman, the owner, a very neat farmer, and a firm believer that *wheat would not turn to cheat;* our conversation fell upon this very subject. He said he never had any cheat amongst his wheat, as he took care never to sow any,—we were walking across a field that had been in wheat the *preceding* year and was *then* in pasture—I soon found tufts or bunches of cheat in it with the heads fully formed, which had escaped the cattle. I pointed them out to the gentleman, and inquired *how* the cheat came there if none had been sown. He could give no reason for it, but expressed some astonishment. For my part, I accounted for it by the herb having sprung *from seeds of wheat* scattered in the previous harvest, and being *injured in a particular state of its vegetation* by the bite of the cattle or some other cause, had been vitiated in its nature to such a degree as *turned it into cheat.*—I then asked him if he had ever seen a field of *cheat* come up spontaneously and grow *where wheat had not been sown* or scattered previously, and he acknowledged he never had. In all my experience and observation, I have never known cheat to spring up and grow in a body as other grasses or herbs do, except in *stubble* fields, or where wheat was sown, which is a *fact*, going far to shew that it is *wheat deteriorated.*

I accord to the writer C. that if *cheat be sown* it will *produce cheat*, and I will assist him with my own experience. In the early part of my *farming* life, upon inspecting the grains of cheat, and seeing such apparent imperfection in its appearance, I doubted whether it would germinate. To satisfy myself, I sowed a small parcel in a lot in the autumn, which soon vegetated and produced a luxuriant *crop of cheat* in due season. The admonition to farmers "to cleanse their seed wheat" from cheat is therefore very correct and proper, but at the same time it is not conceived how the belief that "wheat may turn to cheat" from *injuries received*, can be productive of any evil; on the contrary, the presumption rather is, that under such a belief farmers would be stimulated for the sake of their interests to be more careful in preventing injuries to their wheat in its young state, as far as in them lies. My only objects are *light* and *truth*—such too, I believe to be the case with C. F.

HORTICULTURE.

GRAPE VINES.

Mr. Smith: *Maryland, February 10th*, 1832.

In the 46th No. of your January paper, a writer who signs himself A. makes an inquiry relative to a native grape which was found upon the *Rocky Mountains,* and is mentioned in "the Journal of Major Long's expedition." If I am not mistaken the *same grape* is cultivated in the vineyard of Mr. Adam Linsay, an intelligent and respectable gentleman in Washington City, D. C., who has made many valuable experiments in the culture of the vine in this country, and with great success. The vine growing in Mr. Linsay's vineyard, was obtained by the late Colonel Cook (the distinguished member of Congress from Illinois) from the *Rocky Mountains*, and presented to Mr. Linsay, who, as a compliment to his friend, calls it the "Cook grape." In a visit I made to Mr. Linsay's vineyard in 1829, I eat of the fruit, and was so pleased with it, that I obtained of him 200 cuttings, which I had planted, and a part of which are now very flourishing, and from appearance will produce fruit this year. The grape is very delicious and far superior in flavor to any native grape I ever tasted, except one that grows upon my estate here, and which I intend to send to Mr. Prince next autumn. The description of the "Cook grape" corresponds in *form* and *color* with the one described by A. as growing *on the Rocky Mountains,* perhaps with a slight variation owing to change of climate. It is the greatest bearer I ever saw, and a very hardy vine, growing with great rapidity and luxuriance. Nothing can be handsomer than its large and delicious clusters, and I have no doubt that it will prove to be one of our most valuable native grapes. Mr. Linsay would render a great service to the public by giving his opinion of this grape. Should this be the same grape, the species can be much better obtained from Mr. Linsay, who has raised his stock from the *root* or *cutting* of the vine, than from Col. Robert Carr, whose plants are from *seeds* given him by Dr. *Thomas Say*, and the *seed* of grapes do not always, if ever, produce the *same fruit* as the vine from which they were taken.

The "Cook grape" does not ripen so soon as *June*, and I cannot help thinking that there is a mistake as to the ripening of any grape by open culture in our country as *early* as that month. The writer of this has resided in the climate of Louisiana for many years, *where* all kinds of fruit ripen much earlier than *here*, and the native grapes *there* do not mature so early, but generally may be said to ripen about the 1st of August, and last but a short time. It is more than probable, that the grape of the Rocky Mountains, owing to change of the climate, may ripen later in this section of country when brought here. The grape can never ripen as *early as June* in this climate. The observation of the writer warrants him in saying, that the vines *here* do not generally *blossom* before the 1st of May, except in very unusually mild springs. The last year, the vines of the Catawba, Muscadel, Bland Madeira, Chasseles, and a variety of *foreign wine grapes* and others, which are growing in an extensive vineyard belonging to the writer, did not begin to unfold their *blossoms* before the 10th of May; and *experience proves* that no grape, in open culture, ripens in less time than *three* and oftener *four months* from the time of *blossoming*. The idea of a grape ripening upon the *cold, bleak Rocky Mountains* of Missouri in the month of *June* must have originated in some mistake. Such a case is not in the nature of things unless aided by artificial means. Where an eternal summer reigns, the grape ripens in every month, but in this climate, *August* is as early as we can ever have grapes to a certainty by open culture, and it is early enough for every purpose. Pomonkey.

GRAPE VINES.

Mr. Smith: *Charles Co. Md. Feb.* 18, 1832.

After reading the remarks of P. from Beaverdam, Va. published in your paper of the 10th inst. stating that he had read some years ago in the Farmer, that when the thermometer stands at 5° *below zero,* "the embryo blossoms of the peach tree will be destroyed," and suggesting that it was more than probable that all the *grape vines* were so injured by the late very severe weather, that we should have no fruit from them this year, I was induced to examine a vineyard I have here of about twenty acres of a choice selection of *native* grapes vines, and of *foreign* ones sent to me by a friend who lives in France, who took great pains to select them from some of the best vineyards; and such as he thought, would suit this climate and the particular soil, where they are now planted, with which he was acquainted. I find the suggestions of your correspondent are verified as to my vines. The *bearing wood* is not injured as apprehended by that writer, except in some instances of the *foreign vines,* taken from the "Haut Brion" vineyard near Bordeaux. The *buds* of all the *foreign* vines are destroyed, even upon the branches or vines which appear fresh and green. The destruction has not been *as great* with the *buds* of the *native* vines, such as the *Schuylkill, Catawba, Isabella, Bland Madeira,* and the *Cook grape* of the Rocky Mountains, but these are so injured, as to leave but little hopes of producing any fruit, except here and there, accidentally. In no instance have I found the *bearing wood* of the *native vines* destroyed, except at the ends of the vines, which is usually the case. It appears somewhat extraordinary that the *embryo* of the buds or eyes, which is clothed with several *folds* and covered with a warm texture, should have perished so generally, and that the *wood* of the vines should not have been injured, except in the instance of the particular foreign vines mentioned in the beginning; and I can only account for it, by their being a greater degree of moisture naturally existing in the *embryo* than in the *woody* part of the vine.

Your correspondent thinks it is probable, that upon "large water courses" the grape vine has not been injured. The situation of my vineyard is immediately upon the bank of the Potomac river, where it is at least two miles wide, and in this instance the situation has been no protection to the *buds,* although it may have been to the *wood* of the vines.

Although I feel much disappointed at this moment in my prospect of gathering some fruit from my *foreign* vines this year, I am not disheartened at it, in as much as it shows that the *foreign* vine will stand in *open culture* the severest winters of this climate, when it becomes *naturalized* here, which it will be in a few years after it is planted. If the *unusual* and excessive cold of this winter has not destroyed the *foreign* vine *entirely* but only its *buds*, in common (and in a greater degree) with the *native* vine, we can safely calculate that when *older* and *acclimated,* it will endure any degree of cold that the *native* vine will. The *foreign* vines in my vineyard are only *two years old* at this time, and when *only one year old* stood the severity of the last winter (little inferior to this) without any injury, and have flourished beyond any of the *native* vines before named, planted at the same time. I will also state, that I planted 3500 cuttings and roots received from the "Haut Brion" vineyard as late as the 1st of April last year, (1831,) and that I have just *pruned* them, and with a very few exceptions they are all living; their young and tender branches which put out last summer, and not yet one year old, having withstood the extraordinary and *unusual severity* of this winter, with the exceptions of the *buds* and *ends* of the vines. I have no fears as to the *foreign vines* not flourishing well in my vineyard, from the severity of our winters, in this particular climate and in the soil where they are planted.—The only fear I have, is, whether the climate and soil will enable me to make wine equal or any thing like unto that made from the vineyards out of which the vines were taken. If the culture of the grape vine can succeed any where in our country, I feel sanguine that it can here, for many reasons. The soil of this neighbourhood resembles very much that of *Medoc* in France, being a light sandy soil interspersed with pebbles, and having a sub-stratum of agglomerated earth, open and porous in its nature, and easily penetrated by the roots of the vine to any depth. It is also a plain or champaign country, like that in which grow the finest vineyards of France, such as the St. Denis, Sandillon, Lafitte, Larose, Chateau-Margaux, Branc Monton, and the vineyards of Orleans and Languedoc, in many of which are made the wines of the highest character for flavor and bouquet as well as for body and spirit. Besides which, in no parts of this country where the vine can be cultivated in *open culture,* is the climate less variable or humid than it is here.

The objection, that our *winters are too long* for success in the culture of the vine, is not a good one. It has been proven by experience that cold and long winters are not unfavourable to the vine, if sufficient time be given for the complete maturity of the grape, during the summer and autumn. In France the temperature of the months of February and March is often warm, and shoots forth too early the unfolding buds to the great *disadvantage of the crops of grapes* and other fruits. It is the *frosts of April*, after a mild winter, when the *buds have put out early*, which destroy the prospects of a crop. Our cold and long winters are of great advantage to the vine (except such unusually severe winters as the present,) as they *keep back the sap* and retard the *putting forth of the blossoms* until late in the spring, when they are safe from the *frosts*, which in France, once in four years if not much oftener, materially injure the crops of grapes. The *summers* and *autumns* here are amply long for the perfect maturing of the grape, and are very like the climate of France, perhaps *warmer* with us. In that respect too, the advantage is in favour of our climate, for *heat* and *drought* are favourable to the growth of vines and the perfect and superior maturity of grapes. In Languedoc, near the borders of the Mediterranean, where the produce of the vine, is immense in quantity, it often does not rain for six or eight months, and the *dews* of the night afford sufficient moisture for the vines. The only doubt as to *certain success* in portions of the United States, proceeds from the *variableness* and *humidity* of our climate, which may dispose the fruit of the vine to *rot* and *blight*. Whether our climate is much more so than that of France, or if so, whether it is so much more so, as to prevent us from making good wine, *can only be ascertained by experience*. The success of the vine was doubtful in France for a long time; and it never would have succeeded, had not *perseverance* and *experience*, added to the vine's being acclimated to that country, surmounted every objection and led on to that state of success and prosperity now enjoyed there. It was the same case with the culture of the *sugar cane* in Louisiana. It was unsuccessfully attempted at first, and abandoned under an impression that the climate and soil were both unfavourable. It was again attempted with better success, but languished and drooped for a time, until *experience* and *time* which acclimated it, overcame all difficulties, and in the short period of the last twenty-five years, the culture of sugar has been made equal in quality to any in the world, and millions of dollars have been added to the wealth of the nation, and the country rendered independent of foreign nations for one of the most valuable articles of home consumption. So it will be with the culture of the grape vine in this country, if only persevered in. In both a *moral* and *pecuniary* point of view, it is a great object to our country, and ought to receive every encouragement, not only from our statesmen but from the private enterprize of our citizens. That the grape vine of France will succeed in this country, I feel certain from *the fact*, that there are growing in the garden at this place, thirty or forty vines of the *Golden Chasselas*, which were planted about thirty years ago, and some of them much longer, and have produced fruit annually, since old enough, of the best quality, *improving in flavour and richness every year*. A gentleman of respectability and observation, a competent judge, being a native and resident of the department of Gironde, in France, where the finest grapes grow, who passed a month here a few years ago, when the grapes were ripe, pronounced them to be *equal in flavour and richness* to any he ever saw or tasted. If this be the case with the *Chasselas*, why not with the other grapes of France, growing in the same climate and suitable soils? This fact is conclusive upon the point, and goes to show that we ought not to be disheartened at disappointments, which in the course of things have taken place, and ever will take place in every new undertaking.

It is stated by *Chaptal, Thiebaut DeBernaud*, and *William Robert Prince*, and others, that the grape vine must be *pruned* in *clear* and *dry weather;* but they do not state the *reasons* for it. I have *pruned* my vines this year during damp and rainy weather; and from the *present* and *past* appearances for ten days, I fear if I were to wait for *clear* and *dry weather*, I should not prune them this year, as in this climate the sap generally begins to rise from the 20th of this month to the 1st of March. I cannot see what injury it can do the vines to *prune* them in *damp weather*, and would be glad to know from some of your intelligent and experienced correspondents, the *reasons* why *pruning* is advised to be done only in *clear and dry weather*. POMONKEY.

THE PENNSYLVANIA HORTICULTURAL SOCIETY,

Established in Philadelphia, offers the following Premiums for Esculent Vegetables and Fruits for 1832 *and* 1833.

1st. For the best forced cauliflowers, not less than three in number, to be produced on or before Wednesday, May 9th 1832, a premium of five dollars.

2d. For the best early cauliflowers grown in the open ground, not less than three in number, to be produced on or before the second Monday of July (9th) 1832, a premium of five dollars.

3d. For the best late or autumnal cauliflowers, not less than three in number; to be produced on or before the second Monday in November, 1832, a premium of five dollars.

4th. For the best early cabbage, not less than six heads, to be produced on or before the last Saturday in May, (26th) 1832, a premium of three dollars.

5th. For the best early peas, not less than a half peck, in quantity, to be produced on or before Saturday, (5th) May, 1832, a premium of three dollars.

6th. For the best early peas grown in Pennsylvania, not less than half a peck, to be produced on or before Saturday, (10th) May, 1832, a premium of three dollars.

7th. For the best brocolli, not less than five in number, to be produced on or before the second Monday in November (12th) 1832, a premium of five dollars.

8th. For the best melongena, (egg plant), not less than three in number, to be produced on or before Saturday, the 4th of August, 1832, a premium of three dollars.

9th. For the best artichokes, not less than six in number, to be produced on or before the second Monday in June (11th) 1832, a premium of three dollars.

10th. For the best cardoon, (cynara cardunculus,) not less than five stalks, to be produced on or before the second Monday in October (8th) 1832, a premium of five dollars.

11th. For the best celery, not less than six stalks, to be produced on or before the second Monday in November (12th) 1832, a premium of three dollars.

12th. For the best taragon, not less than three fair sized bunches, to be produced on or before the second Monday in May (14th) 1832, a premium of two dollars.

13th. For the best tomato, (love apple,) not less than one dozen, to be produced on or before the last Wednesday in June (27th) 1832, a premium of three dollars.

14th. For the best strawberries, not less than two quarts, to be produced on or before the second Saturday, (26th) May, 1832, a premium of three dollars.

15th. For the best raspberries, not less than two quarts to be produced on or before the second Monday in July (9th) 1832, a premium of three dollars.

16th. For the best gooseberries, not less than one quart, to be produced in a ripe state during the season of 1832, a premium of two dollars.

17th. For the best cherries, not less than two pounds, to be produced on or before the last Saturday in June (30th) 1832, a premium of three dollars.

18th. For the best apricots, not less than one dozen, to be produced on or before the second Monday in July (9th) 1832, a premium of three dollars.

19th. For the best pears, not less than half a peck to be produced on or before the second Monday in October (8th) 1832, a premium of three dollars.

20th. For the best pears, not less than half a peck, to be produced in a ripe state from December, 1832, to the second day in March, 1833, a premium of five dollars.

21st. For the best grapes, foreign, not less than four bunches, to be produced on or before the second Monday in October (8th) 1832, a premium of three dollars.

22d. For the best native grapes, not less than four bunches, to be produced on or before the second Monday in October (8th) a premium of three dollars.

23d. For the best plumbs, not less than two dozen, to be produced on or before the second Monday in October (8th) 1832, a premium of three dollars.

24th. For the best early potatoes, not less than one peck, to be produced on or before the last Saturday in May (26th) a premium of three dollars.

25th. For the best early apples, not less than half a peck, to be produced on or before the second Monday in August (13th) 1832, a premium of two dollars.

26th. For the best fall apples, not less than half a peck, to be produced on or before the second Monday in October (8th) 1832, a premium of three dollars.

27th. For the best winter apples, not less than half a peck, to be produced on or after the second Monday in January (10th) 1833, a premium of three dollars.

28th. For the best early peaches, not less than half a peck, to be produced on or before the second Monday in August (13th) 1832, a premium of three dollars.

29th. For the best late peaches, not less than half a peck, to be produced on or after the first Monday in October (8th) 1832, a premium of three dollars.

30th. For the best early cucumbers, not less than six in number, to be produced on or before Wednesday, 2d May, 1832, a premium of five dollars.

31st. For the best forced lettuce, not less than four heads, to be produced on or before Wednesday, 18th April, 1832, a premium of three dollars.

32d. For the best lettuce grown in the open air, not less than six heads, to be produced on or before Wednesday, the 16th May, 1832, a premium of three dollars.

33d. For the best figs, not less than one dozen to be produced on or before Saturday, 29th September, 1832, a premium of three dollars.

34th. For the best quinces, not less than half a peck, to be produced on or before Wednesday, 31st October, 1832, a premium of three dollars.

35th. For the introduction of any new and valuable seeds, fruits or plants during the year 1832, a premium of from two to ten dollars at the discretion of the society.

In addition to the premium, the society's certificate, handsomely framed, will be awarded to each successful competitor.

The object of the society in offering these premiums, is to excite a spirit of emulation among cultivators, to improve the varieties of fruits and vegetables, and disseminate a knowledge of the art of gardening. Therefore all persons, whether members of the society or not, are eligible as competitors, and are invited to become such.

Fruits and vegetables can be sent to the Seed Warehouse, of Messrs. D. & C. Landreth, No. 85, Chesnut street, where the committee will attend for examination every Wednesday and Saturday morning from 8 to 9 o'clock.

It is desirable that each kind of fruit offered for competition should be as numerous as possible, regard being had to produce none but of a fine quality, for instance the first fruit on the list of premiums, is strawberries, the two quarts of which may consist of various kinds, though a single variety excelling all others offered, would be successful. Each kind should be accompanied by its name.

It is also desirable that the vegetables exhibited should be accompanied by short observations on the mode of cultivation, if peculiar, together with any other remarks of utility.

If of any article for which a premium is offered, no specimen be submitted worthy of distinction, the society reserves the power to withhold the premium.

It is to be clearly understood, that any fruits and vegetables brought forward for competition are to be the growth of the competitor.

Further information, if desired, can be had on application to any of the council.

George Vaux, *President.*

C. Pickering, *Recording Secretary.*

RURAL ECONOMY.

BOTS IN HORSES.

Mr. Smith: *Sparta, Ga. Jan. 30th,* 1832.

Sir,—I have observed in the last number of the American Farmer, a controversy somewhat piquant, between Dr. Hardin, Agricultor, and yourself, on bots in horses. As the subject is very important to those who have much use for that valuable animal, and has always been considered very obscure, I will offer you a few remarks, (if you should deem them worthy of publication) which are the result of some attention to horses, and the nature of their diseases. I may assure you with great truth, that I am not desirous of involving myself in this controversy, for I cannot furnish as many facts as Dr. Hardin, nor have I any such ability in logical deductions from them as is displayed by Agricultor. I would beg leave however to remark, that if any act can be a proof of instinct in animals, the fear of the bot fly constantly manifested by horses, might be confidently offered; even colts of the spring preceding the appearance of the bot-fly in autumn, have a fear of this insect most significantly expressed, and which can only be instinctive; but upon this part of the subject I will refer you to Agricultor, and proceed to consider the opinion advanced by Dr. Hardin and adopted by yourself, "that bots in horses are harmless if not of sanitary use," if this is true it is very important, for the number of horses which are supposed to die of bots is great, and the variety of remedies which are constantly prescribed, must be not only useless, but exceedingly mischievous. This new theory, with all due deference to its advocates, I think is altogether unphilosophical, and cannot be sustained by a reference to any of the known laws of animal economy. The bot may be said to be one of a great variety of parasitical insects, that according to the wise provisions of nature, live upon the larger animals, and with its peculiar organization different from other worms, lives like them, a part of its life in the viscera, while ticks, lice, fleas, horse-flies, &c. derive their food from the skin. The organic structure of these residents of the interior, is no less different than their location, and they are utterly unprovided with the means of living upon the surface, while, if those who have this capacity, were allowed to reach the digestive organs for food, both races of animals would soon become extinct. What would you say, Mr. Editor, to one who should advise you to permit your cattle to be covered with ticks, your dogs and swine to be supplied with myriads of fleas, or your poultry with lice? Doubtless you would reject the advice, and you might inform its author that ticks kill young cattle in the south, and that the buffalo gnat kills horses in the western part of Tennessee; these facts are adduced to show that death may happen to an animal by numberless, though small punctures of his hardy covering, the skin. I will address myself to those who understand something of the laws of animal life, and ask what possible advantage could accrue to a living being to have his skin punctured in a thousand, or ten thousand places by flies, or the mucous membrane of his stomach subjected to the same process by the tentaculæ or hooks of as many bots? Surely, none, on the contrary, the organs respectively, thus wounded must be to some extent incapacitated, for the performance of their healthy functions, there would be this difference between the skin and the stomach, that the latter is incomparably more sensitive, and the injury would be correspondingly great. Before I give you my opinion as to the modus operandi, or cause of death to horses by bots, (for I maintain the very reverse of the doctrine of yourself and Dr. Hardin) I will premise a few remarks on the physical structure of the insect: from the number which I have examined, it may be said that they are near three-fourths of an inch long, and about three-eighths of an inch thick, when they have attained the full size of the larva state, they have nine distinct rings round the body, armed with short stiff bristles, the mouth resembles very exactly the larva of the wasp, and the tail terminates in two very sharp black hooks, somewhat divergent, and may be two-twelfths or three-twelfths of an inch long, with which they fix their residence in the stomach, by perforating its mucous coat. They are therefore connected to the walls of the stomach by the tail, with the mouth and body inward, a position most proper to reach their natural and only food, the gastric juices; I say the gastric juices of the stomach their "natural and only food," because with the greatest care, and a pretty good magnifier, I have never been able to detect any thing like an apparatus for mastication, or which could be possibly used for dividing muscular fibres, or membranous coats; it is therefore impossible that these insects should have ever made a "first or a last meal" of solids. Is it in accordance with the laws of nature that an insect, admitted to live principally on liquids, should be provided with an extra apparatus for one or two meals of solids, when there is moreover an extreme improbability of its ever being wanted? never according to the theory unless the horse dies; but allowing for argument sake, that the bot is thus provided, there is yet a difficulty that cannot be surmounted, the stomach of the horse is near half an inch thick, composed of membranous and muscular coats. approaching in solidity to his skin. Can you apprehend how an insect could consume, not "immediately," but in any short time, however great the emergency, very near his own size of flesh much more solid than his own body? which must happen if he eats through the stomach. There is yet another difficulty, the movement of the bot is retrograde, and is accomplished by means of the hooks before referred to, catching on the surface over which he moves, and from the very structure of its organs of locomotion, can be performed in no other way: he must therefore eat his hole first, and then change ends to get through. The appearance of the stomach where the bot is fixed, I know, leads to the opinion of its having eaten a part of the substance, but whoever shall examine a case, will find this appearance directly round the tail, which the mouth could not reach, and is produced by slight inflammation and thickening of the mucous coat of the stomach in consequence of the punctures by the hooks of the bot, precisely as it happens to the skin, when a tick has fastened itself, or where any small solid body remains in the skin for any length of time. But I am extending this part of the subject needlessly, and will proceed as succinctly as I can, to give you my theory, which may be new, at least as far as I know.

It is admitted by all observers of the disease in question, that those horses most likely to die of bots, are such as are in good condition, or full fat, and that have been put rather suddenly to hard work, that have been made to perform unusual work for some days, or performing their usual work have been made to fast too long. The diseases to which the horse is most liable are highly inflammatory, such as colds, coughs, colt distemper, pleurisy, &c. if then he is placed in the above predicament, when there are many bots in his stomach, the great or long continued arterial excitement would readily produce acute inflammation in that organ, already slightly inflamed in many places by the punctures of its mucous coat, and by the bristly surface of the bots made restless, for want of food not regularly supplied. Inflammation of the stomach, like inflammation any where else, may end in mortification, and in consequence of the heat of its situation is more liable to this state of disease, than external parts; and hence it is that when a horse dies of bots, his stomach is found in places so tender as to be easily torn by the fingers, and sometimes holes through it, or in other words mortified. Those who may have examined the animal after death, often report that the "maw was eat up in some places, and like a honey-comb in others;" it is through these openings that the bots pass, as I have sometimes seen.

I shall be asked how it is that horses sometimes die suddenly, or very soon after they are taken; to this, I reply, that the animal never complains as long as diseases are endurable, that very few persons whom I have ever known, will observe that a horse is sick until he refuses to go, or tries to lie down. and that acute inflammation when it attacks parts already diseased, runs rapidly into mortification. My theory is, therefore, simple and easily understood, it supposes that slight inflammation is produced and continued in the mucous coat of the stomach. By the puncture and adhesion of bots, that acute inflammation is produced by the causes referred to, and that when death ensues, it is by mortification. This, it seems to me, may account for the extreme pain which is often witnessed, where there is no distention of the stomach or bowels; it will show us the reason, too, why poor horses, which are not liable to acute inflammation, never die of bots.

If there is any merit in this view of our formidable complaint, the remedies usually administered are absurd beyond measure, indeed fatal. Such as whiskey, spts. turpentine, fish brine, solution of blue stone, &c. given for the purpose of killing the bots, or "making them let go," as 'tis said, neither of which purposes if it could be accomplished would be of any use, as the inflammation already threatening life, would remain to be cured. But both of these objects are unattainable, the insect will bear to be immersed eight minutes in strong aqua fortis before he dies, and it requires smart mechanical force to overcome the strength of his hooks. I will only add what must occur to every one, as the proper treatment of this disease upon the principle of the above theory, and the good effects of which, I think, I have seen. As soon as you discover symptoms of much pain about the stomach of your horse, bleed him from the neck, a full gallon, (in a vessel that you may know how much you take) and if he is large and of full habit, two gallons or near it. Pour into his stomach two quarts of warm milk with a little molasses, or fresh sweet oil, or a mucilage of flaxseed or thin flour gruel, hog's lard warm, will do, place the patient in a place where he may lie down, and where, if it is warm, the sun cannot heat him, or if it is cold, where he may be warm. In about an hour, give another quart of the above liquid, with two ounces of laudanum to allay irritation, if the pain still continues, you may bleed again, using warm mucilaginous drinks, if he should want any, taking especial care to avoid all causes of internal or external irritation, and using such other remedies as may be auxiliary in abating inflammation. After the pain is gone, some mild astringent, may help the tone of his stomach, but light diet and kind treatment, will, probably, be sufficient for his entire recovery.

It only remains to offer you my respects and good wishes. A Spartan.

DISEASES IN SHEEP.

Mr. Smith: *Feb.* 16, 1832.

In accordance with your request that your subscribers should communicate with you more freely upon the subjects pertaining to their profession, I send you the following cases and observations for publication, if deemed worthy of that honor.

On the 27th ult. it was reported to me that three of my ewes were very sick; upon going into the field I found two of them standing still, in a natural position, excepting that the two fore legs were a little advanced—eyes clear and of lively expression, no fever, little or no running at the nose—no evidence of disordered bowels, nor other symptoms of disease than indisposition to move, great weakness and tottering when made to move, with a confined respiration; that is, it was so gentle as scarcely to be perceptible. The third went off when I approached her, and commenced eating, but the next day was stationary like the rest. I was at a loss to say what was the matter with them, but supposed it was some disease of the lungs, produced by the sudden and great changes from heat to cold, &c. which had just occurred. At the suggestion of a neighbor, and not knowing what better to do, I gave them a raw egg apiece. No good effect was observed, and they died in a week or ten days.—Upon a post mortem examination there was no appearance of disease in the stomach, bowels, nor liver; but the lungs, (or lights as they are commonly called) from having been in a high state of inflammation were so suffused with blood, as to resemble a mass of clotted blood more than any thing else, both in colour and consistence. This is the disease called Pneumonia or Peripneumony, and is thus spoken of in the books:—"The most general cause is application of cold to the body—attacks principally those of plethoric habit—and occurs most frequently in the winter season and spring of the year—but it may arise in either of the other seasons when there are sudden vicissitudes from heat to cold." These sheep were forward with lamb and fat—of course *plethoric*, and we all well recollect the warm weather in the early part of January, and the intense cold suddenly succeeding. It is probable that this is the disease with which Mr. R. K. Meade's fine sheep died last winter, as well as those of several other gentlemen of my acquaintance—but he was not anatomist enough perhaps to detect the diseased state of the lungs. It was remarked commonly by those who lost, that their best sheep died.—The remedies are bleeding—purging and blistering, which latter might be easily effected.—But who ever *bled* a sheep? I should be glad to be informed by any who have seen the operation performed—I presume a sufficient vein might be found in the neck.—The remedies should be applied with great activity.

In September last I observed that a fine young ewe was pale and drooping, and as she was fat, and the general impression is, that a sick sheep rarely recovers, ordered her immediately to be killed.—The right lobe of the lungs was found to be nothing but a mass of corruption, and firmly attached to the side in a space as large as the palm of my hand. This disease must have been contracted during the previous winter, and was gradually consummated without any very apparent external evidence, as she was in a select portion of the flock near the house, which were much observed by me nearly every day for some time.

When I commenced I intended giving several cases of diseases in horses, but the want of more leisure makes it necessary to defer them to another day. Respectfully, &c. Middle Viaginia.

P. S. My sheep are never housed now—since ceasing that practice we rarely ever lose a lamb, and the old sheep are more healthy—I do not know that any proper shelter would protect them from the above diseases.

(From the New England Farmer.)

APPLES.

Mr. Fessenden,—There appeared an unusual fall of Apples from the trees through the last summer, a season when they are comparatively of little value in market; observing my trees prematurely disburthened, I conceived that such fine fruit might be profitably used in making a salutary beverege during the hot season.

Connected with this subject it might be thought a desideratum in rural economy to construct a portable apparatus, which would at once grind and express the juice from a single apple at a time.

The summer apples are generally large, and some of them very juicy; two of such fruit would yield a goblet of nectar which, while it slaked the thirst, would delight the palate not vitiated by alcohol.

This *nectareen*, as we may call it, need not much exceed the size of an ordinary coffee-mill, and like it might be secured to a post, or if more convenient to the dinner table of the husbandman, the maid in waiting having a basket of fruit at hand, might by the twirl of a handle fill a goblet as called for.

Should you think this subject worth notice, I would premise that your Horticultural Society offer a premium for the best and cheapest apparatus in wood, for the above purpose; and as Massachusetts is pre-eminently happy in such inventions, doubtless it would soon be forthcoming. I will subscribe three dollars towards the premium, and take twenty of the nectareens approved of by the society, the price adjusted by them.

The fresh juice of an apple, having no taste of pomace, would be palatable to most persons, and having no inebriating qualities, the cause of temperance would be promoted by its use.—The temperance societies might then repeal their edicts to "give the orchard to the axe."

Your most obedient servant, E. B. G.
New York, *Feb.* 6, 1832.

(From the New England Farmer.)

COUGH IN HORSES.

Mr. Fessenden,—I have seen several valuable communications in the New England Farmer, respecting diseases of Horses—but have no recollection of seeing anything respecting *coughs*, which have been very prevalent among them the last summer and autumn.

I have a very valuable young horse, that has had a cough for nearly a year, and I have been unable to find a cure, though I have found that air slacked lime in small quantities, given with his grain, has been useful. If any of your correspondents can throw any light on this important subject, I think it would be most thankfully received by many of your subscribers, and one in particular. H.
Boston, *Feb.* 7, 1832.

THE FARMER.

Baltimore, Friday, Feb. 24, 1832.

Bots in Horses.—Believing the discussion on this subject of deep interest, we continue it, and recommend the attention of the reader to the article of "A Spartan," in the present number. We take this occasion to explain our opinion on this subject, which was not done with sufficient clearness in the article in which we gave our assent to Dr. Harden's theory. In saying that we did not believe that bots killed horses, we meant and should have said, that they did not kill horses by eating through the walls of the stomach or maw, which is the mode by which they are usually supposed to cause death. Our illustrations, however, we thought sufficiently explained our meaning. That bots do cause the death of horses in the way described by "A Spartan," we have no reason to doubt; and if they do, the fact does not invalidate our position that bots are of sanatary use. The *food* taken by horses as often kills them as bots do; and shall it thence be inferred that food is not of sanatary use to the horse?

A Spartan assumes to be an opponent of Dr. Harden and the editor, and a coadjutor of Dr. Muse, in this discussion. We wish all our opponents such coadjutors, and ask no better friends than "A Spartan," in our discussions. He annihilates all the grounds assumed by Dr. Muse, if his arguments and anatomical descriptions be correct, and clearly proves the material part of Dr. Harden's theory. It must be borne in mind that Dr. Harden does not pretend that bots do not irritate and cause inflamation; he expressly says they do. He only intends to say that bots do not kill by eating through the maw. The "last meal," so often noticed by our opponents, Dr. Harden only admitted might "probably" have been eaten—he did not intend to say it *was* eaten at all; but merely stated the fact that the bots had gnawed or made a passage through; whether they had eaten or swallowed the flesh which they removed, he did not pretend to state positively as it was a fact of no importance to his theory. Dr. Muse and "A Spartan" disagree as to the anatomy of the bot wonderfully—the one places the "apparatus with which it is armed," for eating animal food—"mastication"—"near the mouth;" the other says it *has none*, and describes the same "apparatus' as being merely hooks for holding to the stomach of the horse, and places them on the *tail*.

Early Asparagus.—We were presented on the 4th ult. with a bunch of Asparagus, forced, by Mr. Toohey, gardener to Mrs. Gore, Waltham. Mr. T. we believe, has generally brought forward the first Asparagus in the season, in this vicinity.—*New England Farmer*.

FOREIGN MARKETS.

London Corn Exchange, *Jan.* 9.

We have a short supply of wheat this morning, and the quality very indifferent, in consequence of the state of the weather. Sales have been heavy for the inferior descriptions of English wheat; but some of the middling qualities left over from last week have been disposed of, from the fresh supply being indifferent. Barley, from the shortness of the supply, meets ready sale. Beans and peas are in large supply from foreign parts. Wheat, 50s to 70s; Rye, 38s to 40s; Barley, 28s to 32s; Flour, per sack. 55s to 60s.

Average Price of Grain for the week ending Dec. 30.

Wheat, 59s 2d; Barley, 35s 8d; Oats, 21s 11d; Rye, 36s 10d; Beans, 37s 7d; Peas, 38s 5d.—Aggregate average of six weeks that governs duty: Wheat, 60s 5d; Barley, 37s 1d; Oats, 22s 8d; Rye, 37s 11d; Beans, 39s 2d; Peas, 42s 2d.

General Agricultural and Horticultural Establishment.

Comprising,—A Seed and Implement Store; a General Agricultural Agency, and the Office of the American Farmer, in the basement of Barnum's City Hotel, Baltimore;

In Connexion with a Stock and Experimental Farm and Garden in the Vicinity.

By I. Irvine Hitchcock and Gideon B. Smith.

GARDEN SEEDS.

Just received from Europe at the American Farmer Office and Seed Store the following choice seeds all the growth of 1831. These, in addition to our previous stock, make our assortment very extensive and complete. Long Blood Beet, Turnip rooted do. Yellow Sugar do., Mangle Wortzel, Early purple Brocoli, White Cape do. Purple do. do. Green curled Savoy, Early Cauliflower, Late do., Early Battersea Cabbage, Early Wellington do. Early Sugar Loaf do. Early Dutch Turnip, Early White do. do Garden Stone do. White Flat Globe do. Red Top do. Large Norfolk do. Yellow Aberdeen do. Round Spinach, Prickly do. Ruta Baga, Vegetable Marrow, Early York, Sugar Loaf do. Bullock's heart, do. Emperor do. Battersea do. Yellow flat turnip, Yellow Bullock do. Mason's Scarlet short top Radish, Salmon Scarlet do. Common English Scarlet do. Large Cabbagehead Lettuce, Curled Cress, Curled Parsley, Lucerne.

GARDEN AND FIELD SEEDS.

J. S. EASTMAN has in 120 bushels CLOVER, the most of which is prime, and 50 bushels of Cow PEAS, TIMOTHY, Tall Meadow Oat GRASS, and Herd SEEDS, and a small quantity of English Lawn Grass SEED. Also just arrived per brig Hyperion an additional supply of Fresh Garden SEEDS; among them are a variety of best Garden PEAS and BEANS. His assortment of Garden Seeds are probably equal to any in this city, *and all fresh*, and which he will sell on reasonable terms at wholesale and retail.

He would also inform his customers. that he has on hand a large supply of PLOUGHS and other Agricultural Implements, which he trusts will sustain the credit of his establishment.

N. B. Persons making inquiry for my shop and are informed that there is no such person in this city in the Plough Business, will please continue up Pratt street to No. 36, between Charles and Hanover streets, where they will receive prompt and polite attention by their humble servant. J. S. EASTMAN.

THE HORTICULTURAL GARDEN OF THE LATE ANDREW PARMENTIER, IS OFFERED FOR SALE.

The reputation of this establishment is not confined to the vicinity of New York, but is well known throughout the United States, and different parts of Europe. It is situated two miles from the city of New York, at Brooklyn, Long Island, at the junction of the Jamaica and Flatbush Roads, and contains 24 acres.

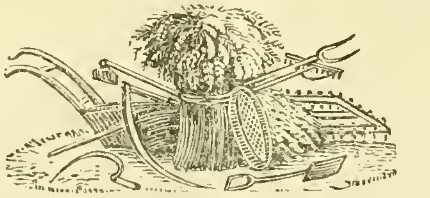
The Grounds are in a very high state of cultivation, and laid out with judgment and taste. The situation is very healthy, and the view very extensive, commanding the bay, the city, &c. The Garden is enclosed by a pointed stone fence, and inside of that is a hawthorn hedge. The Nursery contains a fine and extensive collection of Fruit, Forest and Ornamental Trees; also, a splendid collection of Roses and Herbaceous Plants,—the object of its late Propriotor having always been to collect every new variety.

On the premises are a Dwelling House, two Laborers' Houses, seven Cisterns, and a never-failing Pump of excellent Water—four Green and Hot Houses, containing a rich variety of rare exotics.

The advantages to be derived by any person who wishes to engage in the occupation of Gardening, by the purchase of this property, are very great; the business already secured is very extensive, and the prospect of increased encouragement is such as to warrant the belief that the purchase of the property will amply repay the enterprise of any one who may engage in the business.

Terms will be made known by applying to Mrs. Parmentier, on the premises.

N. B. Mrs. P. will receive and execute all orders.
Feb 10—6t.



FRESH GARDEN SEEDS, AGRICULTURAL IMPLEMENTS, &c.

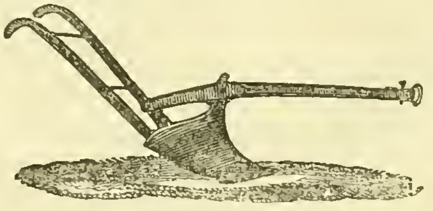
SINCLAIR & MOORE, Pratt street wharf, offer for sale, a complete assortment of Garden Seeds of the growth of 1831, warranted genuine of their kinds; particular care has been taken to obtain the very best, both of English and American Seeds, specimens of which may be seen growing near their store; among the English Seeds just received, may be enumerated:

Fine Early York Cabbage, fine Early George Cabbage, fine Early Wellington Cabbage, fine Early Sugar Loaf Cabbage, Ox Heart Cabbage, Early Battersea Cabbage, Green Savoy Cabbage, Drum Head Cabbage, Red Dutch Cabbage, Early Purple Cape Brocoli, Late Purple Cape Brocoli, White Brocoli, Common Scarlet Raddish, fine Early short Top Raddish, a superior article; Early Salmon Raddish, Late Salmon Raddish, Grand Admiral Lettuce, Tennisball Lettuce, Ice Lettuce, Lazzy Lettuce, Corn Sallad, Asparagus (Giant) Genuine Brussels Sprouts, Green Curled Borecole, Brown Curled Borecole, Sea Kale, Summer Spinnage, Mangel Wurtzel Seed, White Clover, Luzerne, Perennial Rye Grass.

Together with a great variety of fresh and genuine Garden and Flower Seeds of other kinds, both European and American growth, for particulars, see Catalogues.

GRASS SEEDS.

Sapling Clover, Common Red Clover, White Dutch Clover, Luzerne, Timothy, Tall Meadow Oat Grass, Herds Grass, Rye Grass, Green Grass for Lawns, Cow Peas for improving Land, also, Seed Oats.



IMPROVED PLOUGHS.

A large stock consisting of the different sizes, with wrought and cast shares of our New Model, not surpassed by any ploughs known to us. McCormick's Patent Ploughs, Wood's Patent cast share Ploughs, the Patent self sharpening Ploughs with steel points, this valuable principle of keeping its points always sharp without smith expense until from twelve to sixteen inches of a steel bar is worn away, recommends it strongly to the public. Barshare Ploughs for rough lands, Hillside Ploughs, Double Mould board Ploughs, Cast Iron Cary Ploughs, &c. Harrows of different sizes and constructions. Improved Cylindrical Straw Cutters, Daton's Patent, Evans' and common Dutch Boxes, Wheat Fans, Corn Shellers, Steel Hay and Manure Forks, Hoes, Mattocks, cast steel Axes, Socket and Strapped Shovels, Spades, Garden and Pruning Tools.

BOOKS.

McMahon's Gardener, Fessenden, Cobbet, Cox on Fruit Trees.

Fruit and Ornamental Trees and Shrubs in great variety, supplied from our Nursery near Baltimore.
Feb. 24, 1832.

ENGLISH GOOSEBERRIES.

Will be received in a few days direct from Lancashire, England, five hundred GOOSEBERRY BUSHES, comprising eight varieties of the largest and finest kinds cultivated in that celebrated Gooseberry district. They will be sold in lots of eight, one of each kind, at $3; or by the hundred at $25, if immediately ordered—the season having arrived for planting them out. As such an opportunity seldom occurs for obtaining so good a supply of Gooseberries on such terms, persons fond of this excellent fruit, are advised to avail of it.

Apply at the American Farmer Office and Seed Store, Baltimore. Feb. 17.

BALTIMORE PRICES CURRENT.

Baltimore Market.—The market continues extremely inactive—nothing doing. What few purchases have been made of Howard street flour from wagons were at $5; but there is no disposition to purchase, and the bulk of what comes in is stored. There are no sales from stores, but it is not expected that more than $5 12½ could be obtained. A further decline has taken place in grain. The supplies of corn are very abundant and sales have been made within the range of our quotations.

Tobacco.—Seconds, as in quality, 3.00 a 5.00; do. ground leaf, 5.00 a 9.00.—Crop, common, 3.00 a 5.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 10 00; yellow and red, 8.00 a 14.00; yellow, 14 00 a 16.00.—Fine yellow, 16.00 a 20.00.—Virginia, 4.00 a——.—Rappahannock, 3.00 a 4.00——Kentucky, 3.50 a 8.00. The inspections of the week comprise 111 hhd. Md.; 95 hhds Kentucky—total 206 hhds.

Flour—best white wheat family, $6.75 a 7.25; super Howard-st. 5 a 5.12½; city mills, $5.00 a —— a——; Susq.— a —; Corn Meal bbl. 3 50; Grain, Md. red wheat, .90 a .95; white do .95 a 1.05, Susq. — a —Corn, white, 35 a 36—yellow 37 a 38—Rye, 73 a — —Oats, 33 a 36.—Beans, 75 a 80—Peas, 65 a 70—Clover-seed 6.00 a 6.50 —Timothy, 2.25 a 2.75 Orchard Grass —— a ——Tall Meadow Oat Grass 2.00 a 2.50—Herd's, 75 a 1.00—Lucerne — a 37½ lb.—Barley,—Flaxseed 1½ a 1 5-8-Cotton, Va. 7 a 9-Lou. 9 a 12—Alab. 8 a 10—Tenn. .7½ a. 9; N. Car. 8 a .9½—Upland 8 a 10—Whiskey, hhds. 1st p. 31½ a 32; in bbls. 33 a 34——Wool, *Washed*, Prime or Saxony Fleece 49 a 57; American Full Blood, 40 a 45; three quarters do. 36 a 40; half do. 34 a 36; quarter and common do. 30 a 34. *Unwashed*, Prime or Saxony Fleece, 30 a 34; American Full Blood, 26 a 28; three quarters do. 24 a 26; half do. 22 a 24; quarter and common, 18 a 22——Hemp, Russia, ton, $225 a –; Country, dew-rotted, 5½ a 7c. lb. water-rotted, 7 a 9c.—Feathers, 37 a 37½; Plaster Paris, per ton, 4.75 a —, ground, 1.37½ a— bbl. Iron, gray pig for foundries per ton 33.00 a ——; high pig for forges, per ton, 28.00 a 30.00; bar Sus. per ton, 72.50 a 80.00.—Prime Beef on the hoof, 5.50 a 6.00—Oak wood, 3.50 a 4.00—Hickory, 5.00 a 5.50.

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EDITED BY GIDEON B. SMITH.

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AGRICULTURE.

IMPROVEMENT OF WORN OUT LANDS.

First Premium Essay, Agricultural Division.

BY R. K. MEADE, WHITE POST, VA.

(Continued from page 395.)

We will return to our practice on the poor field. One of the difficult and secret arts in improving poor land, is to ascertain with precision, what depth it should be ploughed in order to avoid mixing too great a proportion of the least improvable and unproductive earth with the better part. This may be discovered by experiment of the farmer, but is to be more readily ascertained by chemical analysis. Here now appears the direct advantage of science, its overwhelming power.

Sir Humphrey Davie, the prince of agricultural chemists, or any of our scientific men would tell us in a few hours, if not minutes, the quantities, and qualities of our soils, how to mix them, and otherwise operate on them, in order to their restoration to productiveness again. The farmer, and he must be judicious too, would require as many years to produce through a set of experiments a satisfactory result. It is evidently a secret worth finding out, the due admixture of soils to promote their greatest productiveness, what kind of manures, and at what stage of their fermentation, they may be most advantageously applied to the soil. Some years since I made an experiment on an unproductive, and peculiar piece of ground, surrounded by a kind and generous soil on all sides; it was covered so heavily with strong barn yard manure, as to require a hand to go before the plough and draw it into the furrow, to hide effectually the manure: a crop of corn was planted and well cultivated on the ground, the growth was heavy in its appearance, but not wonderful in its grain production. The most extraordinary and mysterious part of the experiment to me was, that the manure was completely exhausted by the growth, as I must suppose, of the corn; so much so, that when it was again turned up for wheat in the autumn, no one would have inferred it had been heavily manured in the spring; so completely was it decomposed and exhausted by the corn. The nature of the ground has not been changed, nor can it be,—my inference is, until it is aided by some other earth, which if applied in proper proportion, would have restored it to permanent fertility, filling up the vacuum which manure had failed to do. The wheat crop was but little better than usual, while slight manuring on the surrounding lands made a fine crop of wheat, following the corn. In the time of Dr. Debuts it was in contemplation to send a block of this earth to Baltimore, but it is hoped that ere long such experiments will be conducted at a Fellenberg institution, under some talented professor, at this place. That there are many secrets in nature which are occasionally developed by appearances accidental, or by the aspiring genius of man is certain, but they are chiefly beyond his control in the present limited state of philosophy, and may forever be, for some wise purposes of the Creator, and one of them, not the least perhaps, to keep the faculties of man in progressive and perpetual reach after the unexplored things of earth and heaven.

The Creator of the Universe having formed numberless races of intelligent beings originally out of the dust of the earth, it was a matter of no importance to him whether it was rich or poor, grey or black, coarse or fine, or of what denomination soever; but man, with all his boasted powers, cannot grow a single vegetable, or a blade of grass, without a certain arrangement, a due combination of such materials as have been afforded him by the God of nature; and if he ignorantly deranges or destroys such a composition as our soils in nature present, so in proportion will he feel the disadvantage of it, and by a perseverance in error, finally bring about sterility to the earth, and starvation to its inhabitants. He who studies nature, looking up through sentiments of love and adoration to nature's God, will become wise, consequently better fitted in all respects to act a more judicious part in life. Under these impressions he will again repair to the worn out fields, and endeavour to unite to the best advantage those labours which give health and tone to the body, while the mind is looking forward with anticipated delight on the work of the hands.

As the first important demonstration on poor land is to clothe it with grass, no opportunity should be neglected to have every square inch of it thickly set, and uniformly plastered once in the year; manuring wherever the grass appears most sickly and doubtful in its progress; when the land shall be so well sodded as to admit of grazing to some profit, and yield tolerable crops of hay, hopes may then be entertained of introducing the plough, which should be done most cautiously indeed, as one false step would undo for a time, what years had been doing, and produce great additional expense; if the land is ploughed beyond a certain depth, which cannot possibly be suggested here, regulated as it always should be by the state of improvement, depth of the soil, nature of it, and other circumstances, it might be almost as difficult, expeosive, and take as much time to improve another surface as the first; for if the land is ploughed so deep as to put the two or three improved inches of surface beyond the action of the atmosphere and sun upon it, the case would actually occur.

Numberless are the applications and receipts to heal the wounds, galls, and gullies of the different grades and kinds of worn out lands; but there is a class of gullies beyond the ingenuity of man to arrest, but much might be done by adding to the ordinary means a ditch or furrow to convey the drops of water off, above the breaks of a number of little gullies, or indeed from very considerable ones, while a check was given at the head of them; but I confess I know but little about this part of farming. When the surface is unlacerated by such terrible washes, there is always hope in the poorest soil; there is a balm in Gilead; a diseased patient must be treated with great discretion and tenderness; neither the system of Tull, whose panacea was perfect pulverization, nor of More, and many others, who thought deep ploughing an infallible receipt, could ever restore to life such far-gone subjects; the extremes of zealots must be avoided, their favourite systems well scanned before they are adopted; but the advice of the apostle may be accepted at all times without risk, which is to be temperate in all things, and patiently wait for the result of the most judicious measures which can be resorted to; the economy of every plan in its two-fold sense should be well devised before carried into effect, otherwise, there is no knowing what losses may be sustained, and the pernicious influence it may have on the energies and progress of a well disposed and industrious man. There are but few farms to be managed just alike, and this shows the necessity of judgment and experience, or an opportunity of recurring as a physician, lawyer, or divine would do, to his authorities; one in a hundred may perhaps commence judicious arrangements, and proceed with a profitable course of husbandry adapted to his peculiar situation, without reading, experience, or the like, but the ninety-nine will suffer for the want of good advice. There is a grosser ignorance on subjects of the soil and its productions, than on any others whatsoever. The genius of man* soars up into the skies, into the highest heavens, and not unfrequently has the presumption to lay plans, even for the Deity himself, questions the wisdom of his decrees, decides on his prerogatives, &c. and is as wonderfully great in his own eyes as he is little in the view of infinite wisdom. All this time the humble earth which has escaped his vision, and might be a paradise with the application of his talents, virtues and industry, is stripped of its forests, and robbed of its original beauty and fertility by the ruthless hand of man, by its own lords and cultivators, who are never satiated until the very bones of their once beautiful subjects are exposed to the view and ridicule of every passing traveller, who look at them with pity too, and say this poor man, the proprietor of this ground, (not soil,) must be extremely ignorant of his profession, or an ungodly man, given to inebriety, gambling, horse racing, or an inordinate love of the chace, &c., or this could not possibly have been. Yes, the genius and the talent of man are bestowed upon every other subject with the greatest avidity, in preference to that original and important one, the resource and dependence of our very existence, the general source of comfort, health, and pleasure of all the inhabitants of the earth. Works of imagination in their ten thousand airy forms, vain, idle, useless, sinful, are conjured up by the thousand, filling the shelves of libraries with more than useless lumber, there to seduce the feeble mind to waste its precious hours in its pursuit; has precedence of the beautiful and sublime studies of nature, overlooks every thing most captivating and desirable, to speculate in notions which cannot be comprehended, will never feed or clothe the poor, inform the ignorant, or aid in the extension of peace and industry throughout the earth, or even improve a single acre of poor land.

A farm may very fitly be compared to a complicated machine, which if not uniformly oiled and kept in perfect order, will fail in its operation, and finally tumble to pieces; if the various labours on it are not performed with skill, in due time and season, there will be inevitable disorder, hurry, confusion and loss. It rarely happens that unfavourable seasons are a real obstacle to the progress and success of a judicious and industrious farmer's operations; it is the deficiency of knowledge, foresight, judgment, observation, a want of understanding in his profession, that throws him back, he has no confidence in himself, nor should he have, he looks abroad for a signal from his neighbours, and if perchance he is very watchful, and there should be a good example near him, he may by humble imitation do tolerably well; but notwithstanding he often deranges matters by putting the cart before the horse, by a deviation in short from the wise and established maxim of doing all things in order, and not delaying for the morrow what should be done to-day. A considerable absence for our poor field, makes it desirable to examine it with the view of ascertaining whether some portions of the soil have not proved too obstinate for the harrow, plough, manure and grass seed. If such be the fact, and no alternative presents itself, original principles must be resorted to. From your alluvial bottoms too light for any but corn production, remove the soil back again to the hills from whence it came. Such grounds should first be ploughed up, and the new soil spread on the surface and harrowed in, a small portion of manure would then have the effect refused it before. As this labour will be considerable, great care must be taken not to pursue any course of cultivation having a tendency to precipitate this improved composition to the bottoms again. But farmers say the labour is too great in renewing their soil by the transportation of the rich bottom land to the caput mortuum they have made by murderous cultivation. Let us see which will cost most, and be most probably productive, the annual employment of a reasonable capital in making new land out of old, or the employment of a capital far greater, in the fruitless attempt to make bread and meat enough to eat. Is not the fact well established, that in our southern country, from Maryland to Georgia, the proprietors of thousands of tracts of land are compelled yearly to sell off a part of their negro family to feed and clothe the rest, and sustain the unprofitable establishment? A few acres recovered every year, would bring back in time to a state of competent fertility large tracts of land, but the same number annually destroyed, will effectually depopulate our country. It is a distressing and melancholy reflection that so many homes which have been comfortable, and might have been made much more so, have been, and are to be abandoned for a cabin in the wilderness.

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*Not such men as Isaac Newton, and that class of philosophers, who make science their basis, enlarging and improving it still more by the efforts of their mighty minds in humble subordination to the great first cause.

Intermixtures of the soils are of most extensive importance; but there are comparatively few farmers who are aware that the earth we cultivate from four to eight inches deep, is composed of three or four distinct soils according to chemical experiments. As a well known proof of the value of combining them, the same clay which has been meliorated by the light, friable earth on the towering hill, is carried to the deep vale, which would otherwise be entirely unproductive, but then produces great burthens of hay of various kinds. Horticulture should be much more indebted to intermixtures than it ever has been, but it is now becoming so much of a science in the neighbourhood of our cities, that there is every hope of its success, and will, we trust, impart to agriculture a stimulus not to be forgotten as long as there is a poor knoll, or an unfruitful valley in the land.

The economy of using gypsum as a manure, which appears in some places to be almost a part of the earth, is becoming more and more manifest, from the fact which is much agreed to amongst the farmers in this part of the country, that half a bushel to the acre, is equal in its operation to any greater quantity, and that even the half of that shows great effects on grasses. It is almost needless to say, that its regular application to lands under improvement, those especially manifesting a lively sensibility to its use, not only gives vigour, and abundance to its surface production, but also thickens, enlarges, and ramifies the roots, which are of equal, if not superior importance to the tops, when the plough shall have performed its office of turning them under to ameliorate by decomposition.

A word or two on the subject of ploughing in green crops, which have been sowed with a view of improving land, one of the supposed modes of improvement which it is rather recommended to avoid. This system of improvement has also had its zealous advocates. Some singular and fortunate experiments at different periods, and under various projectors have magnified it in their minds to be a matter of so much importance that they have forgotten so large a portion of their favourite material is water, innocent, and inefficient. They argue that no strength has been deducted from the land by the growth of a green crop, and that consequently the land must be fertilized by embedding a heavy green sward of any kind under its surface. It is true, the land has parted with but little of its fertility while the crop is in a green or soft state, but the more it has retained, the less of course it has imparted to the substance of the green crop, and the more succulence it possesses, the least efficient will it be as a manure. Even admitting its effect to be probably advantageous, it is a most costly mode of manuring at any rate, when grain is sowed to produce it, such as rye, oats, barley, buckwheat, corn, millet, &c. &c.

When land has strength enough to bring a respectable crop of straw, it is believed that it should be made up into more efficient manure and applied to that portion of the land requiring most aid, instead of turning in the crop generally without regard to the particular demands of the land. We conclude then that this is one of the modes of improvement, which should be generally avoided, especially on poor land that requires the most woody and substantial manure. In some twenty-five years after various experiments, I have not succeeded more than once, to an extent worth remembering, and that under the most favourable circumstances. Half a dozen acres, part of a large field, which had been laid down in clover for two years, was ploughed in the month of June, a rich growth of clover in bloom was well turned in, and wheat, with due cultivation, sowed on it in the fall—a great crop was the result. Who will now undertake to decide, whether the result was the offspring of the green crop, or the previous improvement by shade, and the falling of the leaves, &c.? I incline to say, both. With a view to a general system of turning in clover, many other experiments have been made and failed. A twenty acre field divided into three parts, a portion ploughed before harvest in the green state, a part of that division mowed off to vary the experiment, the other parts ploughed after harvest, the one-half having been previously mowed; the production was uniform.

Notwithstanding these general failures, I have but little doubt, that there are soils, situations, and have been experiments made, to favour a belief that in some places it may prove beneficial. Those who have much faith in it, should detail all the circumstances connected with their experiments.

We are of opinion that worn out lands in their various grades, and degrees are upon the whole, more dependent for improvement, on a judicious and bountiful system of compost-making and manuring, than on any other general plan for their resuscitation. With such impressions the ordinary domestic materials to compose a system will be mentioned. Corn stalks, when cut as soon as the corn is ripe and securely stacked, a crop eloquently described by Arator, (Col. John Taylor, of Caroline, Va.) to be the meal meadow, and manure, of the Farmer, stands at the head of the list. Straw in its varieties, the clothing as well as the food, of almost all of our animals, that would shiver and shake without it through our cold winters, and be very unproductive of manure; leaves and virgin earth from the woods, wherever they can be spared without injury to the trees; lime, ashes, and every species of trash, which can be collected and thrown together in the farm pen. Our poor field before this, no doubt has discovered the necessity of calling on the compost heap for aid, it should be our business then, knowing the materials we have to work upon, soberly, and industriously, to combine them to the best advantage.

But first we will notice an essay in the American Farmer, No. 19, vol. 13, on Dr. Ravenel's* success, as it is one of the necessary preparatives to a complete system of compost making, and truly worthy the imitation of every farmer. The effects of perseverance in such a plan, it is hoped will in time be communicated to the Farmer, as there is no whim, imagination, or speculation to be found in it. The unquestioned success of a few gentlemen of reputation communicated to the American Farmer, could not fail of having a national effect. So simple and so evident appears to be the operation of so valuable a practice as a regular system in farming. My poor testimony to its importance, is offered with great pleasure from considerable experience, with this difference, that half the year only at intervals, has been employed in conveying materials from the woods, &c. to the farm pen; the effect of which, when carried to the fields would too much lengthen this essay. Suffice it to say they are perfectly satisfactory, yielding a rich reward for the particular additional labour.

Dr. Ravenel keeps a small force in constant action, accumulating every variety of material his plantation affords, to litter his farm pens. The plan pursued is simply this, which has been remarked upon by the editor of the Southern Agriculturist, in a manner which does him very great credit. An old woman is kept constantly employed in raking trash in the woods, and an infirm fellow, (who is incapable of performing any laborious work,) with a mule and cart, is employed in bringing it in, and littering these pens, in which the cattle, hogs, and sheep are regularly penned every night. The same plan is pursued with the stable. These hands are never taken from this work on any account, (as much as to say, if I neglect this, after operations will fail in proportion to the neglect.) It is their portion of plantation work for the year, and although both put together, could not in the field perform the work of one able bodied hand, yet in this way they are of more value than the best of them.

Dr. Ravenel estimates their value to him (employed in this way) at the labour of six hands—that is, were he deprived of the manure made by them, he would be obliged to work six additional hands to make up the deficiency, which would necessarily accrue in his crops. We doubt whether the estimate be not too low. Six hands might enable him for a few years to retain what he would otherwise loose, as he would be able to cultivate so much the more ground. But would his fields be in the same progressive state of improvement, which they now are, or rather would they not be in a few years nearly unfit for cultivation, and he be obliged to resort to the too common practice of clearing new fields and abandoning the old ones? If this would be the result, their value cannot be estimated, by the difference of products of one or two years, but the future condition of these fields must be taken into consideration. This plantation, as may be supposed under such management, has undergone a considerable change for the better, ever since this system was adopted.

The number of animals which are nightly penned, are from two to three hundred, and from such a large stock well supplied with litter, it may be supposed that a large quantity of manure must be made under judicious management, and that this is the case, may be learned from the fact, that for manuring of the present crop, one thousand one hundred and twelve wagon loads (equal to four thousand four hundred and forty-eight single horse cart loads) of manure were carried out and spread in the fields.

"In the course of eleven years the product of the corn fields has been doubled. They at first yielded not more than ten bushels per acre, and now from eighteen to twenty-two, and with every prospect of increasing productiveness. The results obtained from the other crops have been equally satisfactory, and we need scarcely say that this system is persevered in."

"Another practice pursued by Dr. Ravenel is deserving of the attention of every planter. It is the manufacturing on his plantation, with his own slaves, from the wool and cotton produced on the place, all of the clothing and blanketing necessary for the use of his negroes; and this is done without subtracting any thing from the effective force on the plantation." This truly is an excellent paper throughout, and highly to be recommended, especially coming from South Carolina, where we fear there are not many such examples in the Agricultural way. Surely, this gentleman, if he is not a friend to the tariff, cannot be a nullifier, but satisfied to retain the constitution as it is.

*We would say amen to it, with a single exception, made to the penning of sheep, especially in a southern climate, a practice objectionable in even a northern one, in certain seasons of the year. Apropos—can it be stated with a certainty whether black sheep, like negroes in a southern sun, can bear its intensity better than white ones? Dr. R's motive for inclining to raise none other is the convenience of mixing the wool with cotton—but how is the mutton, and what the productiveness of the wool? &c. Should this essay ever chance to fall into the hands of the Dr. or the editor, it would be highly acceptable to be informed on the subject—one of such interest, and so explicitly avowed, as to make even black sheep, a prominent part of Southern improvement; perhaps they may be esteemed more valuable because they eat less than white ones.

(To be continued.)

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*Of Pushee, St. John's, Berkely, S. C.

HESSIAN FLY—BOTS IN HORSES, &c.

Mr. Smith: *25th January*, 1832.

Sir,—There is in the American Farmer of the 30th of December last, an article on the Hessian fly, signed Joseph E. Muse, wherein that gentleman says "in a former paper he has noticed and controverted the confident, but fallacious recommendation of your Canada correspondent, 'to soak seed wheat in brine for the destruction of the egg of this fly,' which the said Canada correspondent erroneously supposed to be on the grain." I cannot divine exactly whether this passage alludes to me, but as I have published a paper on this subject, as I have in that paper promulgated the same thing, and recommended the same remedy, as I live in Canada, as, in short, the above fully applies to me, I reply to vindicate myself from the imputation of confident ignorance. I must premise that the Hessian fly has very lately (about two years ago) exhibited its blighting track in this part of the country, and I expressly alleged in my communication, which was forwarded to a Canadian newspaper in my vicinity, and might, perchance, have found its way to you, that I was unacquainted with the insect, and that of course "I could not pass a decided opinion upon the effectualness of the remedy proposed," viz: soaking the seed wheat; "that my information was gathered from *American authors*." I added, "here, however, it is but justice, and to an Englishman I do say a gratifying one, to declare that they (American authors,) have displayed so much laudable enterprise and perseverance in the cultivation of their land; they have devoted to this science such incessant and profitable study; they have made into it such deep researches, and they now evince such a mastery of the subject, that *I unhesitatingly place the fullest confidence in their communications*." I here spoke my real sentiments, and such being my belief, no wonder I advised the test of the remedy, which I acknowledged to have extracted from Deane's New England Farmer, p. 233, third edition, and also from Nicholson's Farmers' Assistant, p. 193, second edition. It was from the latter work I transcribed the idea that the "eggs of the fly were deposited in the grain;" judging from analogy it is not improbable, for example, the pea-bug. You see that if I trusted to the cure which I sent forth, it was because I put such reliance on the agricultural writers of your country. The fact is, I am disposed to credit all your assertions from a prejudice in your favour. I regard you in the same light that a parent does a fugitive son, towards whom the heart still forcibly yearns, whose talents are impelling him into a conspicuous station in the world, when the pride of the father tempts him to exclaim "he's a chip of the old block." Such, I am sure, are the feelings nine-tenths of my countrymen, for I am an Englishman, indulge towards Americans; notwithstanding a few unhappy churls might essay to convince you to the contrary. I beg you to bear with me—old age is upon me, and with it its wonted incontinence of tongue—but a truce to this digression.

I did not from myself aver the Hessian fly to be of the order, Diptera; but from Linnæus, an authority I have been taught to venerate. Loudon, in his Encyclopedia of Gardening, no contemptible testimony by the by, confirms this statement, only he terms it the musca pupilionis, which must be a typographical error instead of pumilionis. I have not seen the fly, save in the larva state, and which exactly corresponded with the etching of it by the last writer. In fine, it does seem to me possible that the Hessian fly of Dr. Muse and that of Loudon, may be different insects; the one is of the second order, the other of the sixth of Linnæus. I should imagine Dr. Muse to be an agriculturist, employing the word in its proper signification, not in its limited one of farmer, I am not: he therefore should continue his observations, and discover, if possible, an indubitable preventive to the evil, and the public will owe him a heavy debt of gratitude. I, on the other hand, am more in my element in a flower garden, which absorbs my every thought and care. I told you before I was a garrulous, egotistical graybeard, and somehow I can't avoid, now and then, squeezing in a word about myself.

There is a remark by Dr. Muse, which attracted my attention; he says "Hessian flies are obviously not constructed for a long flight," and that "the nidification is largely effected in filthy stack-yards." How is it then that this fly is perceived in fields so very remote from the barn? In fields too, among us, that have *never been manured?* How must we account for the presence of these destructive ravagers now in our district, where they were unknown previous to the two last years? How happens it that they commenced their work of devastation around Mersea, and the next year were visible also at Sandwich, a distance of about fifty miles, without touching the intermediate lands? I press not these queries to cavil; the subject is one of vital importance to the cultivator, dependant on the soil. It is only by urging every seemingly adverse argument that the truth can ever be elicited; and I must protest that as Dr. Muse has so unkindly upset my, no, not mine, but Nicholson and Deane's theory, it is incumbent on him to elevate his beyond a shadow of doubt. I submit seriously to him, whether a few experiments, such as he so judiciously instituted, only beginning with the seed itself, the produce of an infected field, would not incontrovertibly settle the point. He can't expect me to do this. Lord bless me! how does he suppose my feeble, obsolescent eyes could ever discern, with aught less powerful than Herschel's telescope, the oviparous or viviparous spawn of such a puny insect, or whether it possessed two alæ or four? I repeat what I before said in my former paper, "that the Hessian fly is too terrible to be slighted. We must examine the laws of its formation, investigate its economy, and ascertain its peculiarities and habits." Such a thorough acquaintance only with these or other consuming pests can enable us to check and utterly destroy them. If an old man's advice were worth minding, I would tell your Agricultural Societies to offer a premium for the best set of experiments on this head.

I have perused also, with much interest and satisfaction, another article in your useful miscellany of the 2d December, 1831, signed R. R. Harden, on bots. I can attest the truth of his remark that nothing, innocuous to the stomach of a horse, will destroy worms so tenacious of life. White, in his Treatise on Veterinary Medicine, vol. 1, p. 102, 11th edition, states that "bots have been found to resist the strongest poisons, nor have we yet discovered any medicine capable of destroying or detaching them from their situation." Unwilling to grant this, I once took several bots and immersed some in oil of turpentine, and others in spirits of wine for a considerable time, without either producing any sensible effect upon them. From that moment I ceased to administer unprofitable anthelminthics to expel them, though I have often known my horses to void them: coinciding also in White's opinion expressed in the same page, that "when bots are fit to assume the chrysalis state, they are spontaneously detached, and gradually pass off with the feces."

But there is a part of Dr. Harden's important paper, which, I confess, staggers me; yet I do most sincerely hope it may prove the fact, for the sake of the generous and spirited animal I so much admire, and which I half concur with Lawrence in ennobling with a soul; it is that "the bots never kill or injure horses." He argues so well and cogently in support of his hypothesis, that he has almost banished scepticism from my bosom in spite of my own eyes, and in spite of my aforementioned oracle, White, who says in p. 101, vol. 1, "I have met with several instances of their destroying the horse, by ulcerating the stomach in a considerable degree; and cases are recorded where they have penetrated quite through the stomach." The poor beast, from which I obtained the above spoken of bots, mind you, was *running wild on the common*. I must inform you, that our horses here, and excellent little steeds they are too, performing feats almost incredible, as many of your countrymen well know, wholly support life, through winter and summer, in the woods, until they attain a serviceable age. The one referred to, fell down in a pitiable and emaciated state, supposed to have been so reduced by bots, was opened the moment existence terminated, and the stomach was actually perforated. This occurred about eight years ago; I have a perfect recollection ot it, for the animal was examined to decide a dispute concerning his malady, and a bet originating from it, while he was yet breathing. However I am inclined to become a convert of Dr. Harden's: this one instance will no more overturn his position, than the Siamese twins will prove that all mankind are born in adhesive pairs. I should regret to hear that a quadruped, so conducive to the comfort and happiness of man, had been dissected ere fully dead, even for the purpose of ascertaining a weighty question; but I should not object to kill a very vicious, and consequently dangerous horse, or one that had met with an irremediable accident, such as a fractured limb, and anatomize it immediately; this I am quite certain would answer every intent. My circumscribed experience goes also to evince the accuracy of Dr. Harden's notion, that death induced by cholic, has been often attributed to the bots; moreover horses with the former complaint bite their sides, an act commonly considered solely to indicate the latter one. Flatulent cholic is readily distinguished; its symptoms are, at all events, very different from those of inflammation of the bowels.

But, sir, are you not mistaken in your conjecture that "animals or insects feed not upon living flesh?" I fancy that a hungry and ravenous Bengal tiger does not stay to give the merciful coup de grâce to an unfortunate black-fellow, when fastened upon his hip. If he has a violent longing for food, he will devour at once; otherwise he will incapacitate his prey, and play with it like a cat. You say a shark takes off a limb, but that limb is living flesh, and he eats it. I have seen an alligator snap off the leg of a Bengalee, and dash with it into the Ganges; although I never noticed the monster spit it out again, because the blood of life was in it. Travellers in the northern parts of Europe assure us the bear heeds not a dead carcase. The supposition that wild beasts kill before they eat, surely cannot be maintained: I speak from occular demonstration. The few observations I have made during years, passed in rambling over many countries, (but, recollect, I do not put myself forward as able to decide, mine is only the persuasion of one individual) induce me to think that predaceous creatures put to death or disable to prevent the escape of their victim. Most carnivorous brutes drink the blood, and what is blood but the life?

I have scribbled you a prolix letter. Perhaps you have wasted much time, if you have arrived thus far. However, to compensate you as well as I can, and I am sure the transition is very natural from the stomach of one animal to that of another, I send you a recipe for making ginger beer powders, which may be of use:

Mix well together, and into an impalpable powder, in a wedgwood ware mortar, eight grains of ginger, two drams of loaf sugar, and twenty-six grains of carbonate of potash; take also twenty-seven grains of tartaric acid, (citric acid is preferable, but dearer than the other,) this must be kept apart from the first ingredients. Fill two tumblers, about one-third full of water each, stir, until they dissolve, the mixed powders in one, and the acid in the other; pour one solution on the other, and drink while it effervesces.

Now, should you be so fastidious as not to admit of any thing to warm the inwards, to borrow an expression from that nervous writer, but vacillating renegade, Cobbett, I will give a receipt for refrigerating them in the shape of seidlitz powders:

Dissolve in a tumbler of water, one-third full, one dram of Rochelle salts, and twenty-five grains of carbonate of soda, and in another tumbler, also one-third full of water, twenty grains of tartaric acid; add the latter to the former and drink immediately. Omit the Rochelle salts, and you will have soda powders.

Wishing your instructive publication all the diffusive success it so justly merits, desiring you, at the same time, either to burn or make use of the above as you judge proper,

I remain, sir, yours, faithfully,

An Ancient.

[We shall always be glad to hear from "An Ancient," and hope he will not allow his "greybeard" and "incontinence of tongue," to persuade him into the belief that he is not welcome.—*Ed. Am. Far.*]

APPLICATION OF LIME.

Mr. Smith: *Feb.* 9, 1832.

In answer to the inquiries of your correspondent, in the 40th number of the present volume of the Farmer, respecting the "quantity of lime necessary to be applied to stiff clay land and sandy soils," I will endeavour to give you what little knowledge and experience I have in the use of that highly important manure.

I have found that stiff clay land requires a greater quantity of lime, than light or sandy soils, and I generally put on the former one hundred bushels to the acre; its effects are hardly ever seen the first season unless put on ploughed ground. In order to obtain immediate advantage from it, I plough the ground intended for corn in the fall preceding, in order to get the lime out as early in the spring as possible; which I have spread immediately before corn planting, if the season is not extraordinarily dry, its effects will be evident in the growth of the corn. I have pursued the same course on *worn out* lands, where scarcely a spear of grass was to be seen five years ago, and which are now producing as good crops as the richest limestone land I have. This land was naturally thin, intermixed with slate, iron ore, and iron pyrites, and the quantity of lime used about seventy-five bushels to the acre.

Another method pursued by some very good farmers in renovating worn out lands, is to apply fifty bushels of lime to the acre, evenly spread on the sod, which, after the first season, will produce good pasture from the growth of the natural grass; after using it for a pasturage for two or three years, it is turned down and about the same quantity of lime applied on the ploughed ground, which will then produce a good crop of rye, corn, or oats. A great object with me has been to produce a good growth of clover; when this is once obtained there is no difficulty in improving the quality of the land with proper management.

If the foregoing remarks are of any service to your correspondent he is most heartily welcome to them, and I hope they may meet the eye of some of your good Chester county subscribers, who have been so much benefitted by the use of lime, believing, that if I am wrong in my plans, they will be good enough to set me right. Yours, &c.

A German Farmer.

(From the New England Farmer.)

CULTURE OF RUTA BAGA.

Amesbury, Feb. 1, 1832.

Mr. Editor,—I send you a few observations upon the culture of the Ruta Baga; if you consider them worth publishing they are at your service.

The way that I think best for raising this crop, is as follows:—The year before take a piece of green sward in the spring, give it a good manuring with green dung, spread it evenly over the ground and plough it under. At the proper time plant with corn, taking particular care to let no weeds go to seed during the whole season. After the corn is gathered, there is no more to be done to the ground, for I do by no means approve of fall ploughing, though I once had a different opinion, but now think it to be injurious to any soil suitable for turnips.

The next spring, as soon as the ground is sufficiently dry, it is ploughed; then let it remain a little more than three weeks longer, and plough again, and at the end of three weeks more plough the third time and give it a good harrowing. By this time, if the land is what it should be, it is in good condition to receive the plants, which should be set as soon as possible after the harrowings. The intermediate time between the ploughing will give nearly all the seeds of weeds a chance and time to sprout that may remain in the ground. These operations will bring it to about the first of July, which is not too early to insure a large crop. To procure the plants the seed should be sown on a separate piece of land in the early part of June, but I should recommend to not sow so thick as is generally practised. If the plants stand too thick before transplanting, they never take good roots but are sickly and tender, the turnips will have long slim necks and not grow near so large, round or handsome.

The form of setting is in rows two feet apart, and the plants within a foot of each other in the rows. The most expeditious way of setting that I have ever seen practised, is for some person to go before and drop the plants singly at the distance above mentioned; he is followed by two others with very small wooden shovels or slices,—with these they open a place sufficient to receive the roots, then with both hands press the soil round the plant so that it will stand erect. In this way if the ground is mellow, they can be set very fast, and if the plants are good, there will not one out of a hundred die. I would recommend, however, never to transplant in wet weather, and when it is fair, the dew should be off some time before the plants are taken up.

The advantage of transplanting over planting the seed in the field where they are to grow, I think is considerable. In the first place, the ground is in better condition, and it will generally save two hoeings. The first time a turnip crop is hoed, when it is not transplanted, is a slow operation, and takes more time than it would to set it all out with plants after the ground has been prepared as before directed. With regard to the best mode of preserving them from the frost, I think there is none so good or economical as a good cellar under the barn. I had a cellar made under my barn seven feet deep, twenty-six wide, and thirty-two long, this, if I am right in my figures, will hold upwards of four thousand bushels To dig and stone this cost me forty-six dollars; digging and drawing the stone twenty more; and four for pointing, making in all seventy dollars, the interest of which is four dollars and twenty cents. Now I know of no other way that four thousand bushels of turnips can be secured for four dollars and twenty cents, their bulk being sixteen or twenty cords. There is another very important consideration, when they are in a cellar they are perfectly secure, and can be had every day through the winter, when they are most wanted, which is not the case if they are covered on the field. With regard to the value of the Ruta Baga for feeding stock or fatting cattle, I think it is the most profitable crop the farmer can raise. I consider a ton to be worth more than a ton of potatoes, and the expense of raising them is less than one half of raising so many potatoes. Respectfully yours, J. M.

Why are kitchen vegetables, as peas, French beans, &c. sometimes difficult to boil soft?

Because of the great quantity of gypsum imbibed during their growth, and not on account of the coolness of the season, or rains, as has been generally supposed: to correct this, throw a small quantity of subcarbonate of soda in the saucepan with the vegetables, the carbonic acid of which will seize upon the lime in the gypsum, and thus free the vegetables from its influence.

HORTICULTURE.

GRAPE VINES.

Mr. Smith: *Oxford, Md.* 18*th Feb.* 1832.

Dear sir,—In your paper, No. 48, vol. 13, page 381, I find some gentleman wishes to know the best way of protecting the grape vines from frost, particularly in such seasons as the last and the present winter. With a hope that it will do good to some of our friends, and those gentlemen who wish to raise this valuable fruit, I give you the following statement, which is my own experience.

Take the scrapings of your wood yard or any rotten vegetable manure, and bank it up; then add near one-fourth as much well drawn ashes to it, and pour on it a considerable quantity of soap suds until it is all mixt together; and just before the frost, spread it round young vines that you are afraid will not stand the climate; when this is done, before the hard frost comes on throw cedar or pine bushes over the branches; where neither can be had, something that will keep off the hard cold winds, may do. I put nothing on the branches of my large vines that suit the climate, only throw some of the above compost round the roots. Some fifteen or twenty years back I used some little of the compost, and generally used dead grass, hay or sea sage, &c., and it did very well; except some few vines, I found quite dead, and on a full examination I found the hay, &c. had harboured a parcel of mice, and they had buried themselves near the root and gnawed off all the bark and killed the vines! therefore, I found the remedy was some times as bad as the disease. Mice in many parts of the world are a great nuisance, and in some elevated lands more than many people have an idea of. See the Farmer, No. 45, vol. 13, page 359. Gentlemen will find an advantage in propagating the vines that suit our climate best; yet we have the curiosity to raise a few of the south or foreign vines that are in high repute, and some may suit us when others do not.

John Willis.

DISEASE IN APPLE TREES.

Hazlewood, near St. Louis,
Mr. Smith: *Missouri, Jan.* 18, 1832.

We have in this neighbourhood (Florrissant Valley) a disease among our apple trees, which will I fear destroy them; it commences most generally at the termination of the young shoots, (about the month of June) the leaves withering, and having the appearance of being scorched by fire, the sap turning quite a dark brown colour; the body of the tree a short time after becomes affected by the outer bark blistering and by degrees the whole of the inner bark loosening itself from the tree in various places, and splitting itself, and continues till the whole tree has the appearance of being destroyed by fire. I have not been able to detect any insect which could have produced this effect, and am quite at a loss to ascertain what the disease can be; I have examined the Farmer and Salisbury on orchards, and can find nothing in either of them to throw any light upon the subject. Has such a disease ever made its appearance on the eastern slope of the Alleghany?

I have had but one pear tree affected in this manner, and have not discovered it in any other of the fruit trees; it is thought by some to be an insect of some kind—but I have made frequent examinations with a magnifying glass, and could not detect any thing like the appearance of an insect or its larvæ.

I have cut the limb off at various distances below the affected shoot to stop its progress down, if such should be its progress, but towards autumn or the succeeding spring the body would become affected as above described, and the tree die that or the succeeding year. In one or two instances after the tree became gradually affected to within a foot of the ground, and had the appearance as if you had burnt straw or brush under it, the roots put up young shoots.

(For the American Farmer.)

COLOR IN FLOWERS.

Many of those plants which we cultivate for their beautiful flowers, run into many varieties in regard to color; but the young florist soon observes with surprise that there is one color, (sometimes more) into which no variety of any one species will ever run, as if the law was imperative,

Take any *shade* but that———.

I know of no plant, however, which comes so near to forming an exception to this remark as the Hyacinth, which our learned countryman *Noah Webster*[*] calls "a large red flower." Now I think he has been unfortunate in selecting this color, for I have never seen a *full red* hyacinth; and yet I have bought bulbs of the *reddest names,* such as *flos sanguineus,* &c. in hopes to have intense crimson flowers like the tulip. All however proved but little more

Than *streakings* of the morning light.

Neither have I been able to procure any yellow hyacinth equal in intensity of color to the yellow rose.

Often, the *prohibition* of a particular color extends to all the species of a genus.

Thus we have

no *white* Stapelia, Fritillaria, Pontederia, Brunsvigia;
no *red* Crocus, Iris, Viola, Campanula, Hemerocallis, Asphodelus;
no *blue* Gladiolus, Primula, Phlox, Tulips, Narcissus, Roses, Lilies;
no *yellow* Echium, Viburnum, Trillium, Pœonia.

In marking the principal colors of ornamental flowers, we must necessarily vary from the colors of the prismatic spectrum, at least in substituting *white* for *green.* I would not call a flower *red,* &c. unless the color was *unmixed.* Many of our *purple* flowers are mixtures of red *and* blue, like those of Phlox divaricata, which sometimes approaches red and sometimes blue, but never is *either* red *or* blue.

An Amateur.

(For the American Farmer.)

FRUIT TREES.

2d. mo. 18, 1832.

I have somewhere read the opinion of an eminent orchardist, that the blossom buds of the peach tree generally perish when the mercury sinks 20° below zero. There are two circumstances however, to which I believe that writer did not advert, one of which at least, is of great importance in determining the temperature at which they would perish, namely: whether the buds after they are fully formed and matured, do, or do not, become *started* or *swelled* by mild weather, either at the close of autumn, or some time during the winter. The peach bud when *mature* but *not started,* is very hardy; and I suspect will not lose its vitality much sooner than the branch that supports it. In this district where the peach tree is extensively cultivated, and where the mercury rarely descends more than ten or twelve degrees below zero, we never ascribe the loss of the blossom buds to the cold, unless they have *started.* When this happens however, a few degrees of frost are sufficient to destroy them.

Our severest winters are often succeeded by plentiful crops of peaches.

The other circumstance to which I allude is the difference of *hardiness* in the peach tree in different climates. In conformity with the common opinions of experienced horticulturists, a peach tree on the coast of Georgia or Florida would perish from cold at a much higher temperature than one of the same kind in the State of New York; that is, trees inured to the severity of our winters would resist more cold than the same kind would resist in the milder climates of the south. The point of temperature at which *unstarted* blossom buds would perish, must therefore be different in different climates.

I have intended this note as a comment on the remark of "P." at page 381 of the current volume of the American Farmer.

D. T.

The Chinese green tea plant (*camellia viridis*) has been successfully planted by Mr. Rootsey, of Bristol, in a part of Brecknockshire, Wales, near the source of the Usk, about 1000 feet above the level of the sea, and higher than the limits of the native woods, consisting of alder and birch. It endured the winter, and was not affected by the late frosts of last May; and it has made several vigorous shoots.

RURAL ECONOMY.

(From the Petersburg Intelligencer.)

DAIRY HUSBANDRY.

We learn with pleasure that James Dunlop, Esq. of London, with a view to improve the breed of *cows* on his plantation called Roslin, near this place, as well as for the benefit of the owners of *neat cattle,* generally of the vicinity, lately sent from Britain a bull and several cows of the celebrated *Ayrshire dairy breed;* of which shipment the bull and one cow we understand have survived the tempestuous weather recently experienced in crossing the Atlantic, and arrived in excellent condition on the Roslin estate.

When we recollect how many valuable additions to our stock of blooded stallions and mares, besides merino sheep, etc. this gentleman has in former years contributed to the improvement of the breed of animals on this side the Atlantic, we doubt not at a considerable pecuniary sacrifice, his enterprise and liberality cannot be too highly commended.

Mr. Aiton, in his popular work on *Dairy Husbandry,* has given the following history of the Ayrshire Dairy Breed of Cattle:

"The dairy breed of cows in Ayrshire, now so much and so justly esteemed, are not an ancient or indigenuous race, but are a breed begun to be formed, first by the inhabitants of the bailliary of Cunningham in that county, within the last sixty, and chiefly within the last forty years. It appears from an adage in the county of Ayr,

"Kyle for a man,
Carrick for a cow,
Cunningham for butter and cheese,
And Galloway for woo,"

that dairy husbandry had not only been practised in Cunningham, but that the making of butter and cheese had become the peculiar and distinguishing boast of the district at a very remote period; and the last and present generations of the inhabitants have shown that they still attend to that branch of industry, and have greatly improved on the favourite practices of their ancestors.

"But though dairy husbandry has for many ages past been more attended to in the bailliary of Cunningham than in any other district in Scotland, it was only during the present generation that any material improvement was begun to be made or even attempted, on the breed of cows in that district; and it is only within the last twenty years or thereby, that that improvement merited notice.

"Every person now of fifty years of age or upwards, who has paid attention from their youth to the cattle in that district, will remember that the cows in the bailliary of Cunningham, and that of Kyle, were generally, till after the year 1780, a puny, unshapely, and inferior breed of cattle, not superior in size, shapes or qualities, to those still met with in the higher parts of Clydesdale, Peebleshire, or those in the islands of Arran and Bute. They were even inferior to these, from not being nearly so well fed as cattle generally now are in every district, except in some parts of the North Highlands.

"The cows then kept in the districts of Kyle and Cunningham were of a diminutive size, ill fed, ill shaped, and yielded but a scanty return in milk,—they were mostly of a black colour, with large stripes of white along the chine or ridge of their backs about their flanks, or on their faces. Their horns were high and crooked, having deep ringlets at the root: the plainest proof that the cattle were but scantily fed. The chine of their backs stood up high and narrow, their sides were lank, short and thin; their hides thick, and adhering to the bones; their pile was coarse and open, and few of them yielded more than three or four Scots' pints of milk per day, when in their best plight; or weighed when fat more than from twelve or sixteen, to twenty stones avoirdupois, sinking offal.

"It was impossible that these cattle, fed as they were, could be of great weight, well shaped, or yield much milk. Their only food in winter or spring was oat straw, and what they could pick up in the fields, to which they were turned out almost every day; with a mash of weak corn and chaff daily after calving. And their pasture in summer was of the very worst quality, and eaten so bare that the cattle were half starved. The land was then under such barbarous courses of cropping, and so much overcropped, that when turned to pasture, it yielded little else but weeds, and a few natural grasses of the worst quality; and that coarse pasture was so much overstocked, and eaten so bare, that the cattle were half starved, and had the aspect of starvelings.

"A wonderful change has since been made in the condition, aspect and qualities of the Ayrshire dairy stock. They are not now the meagre unshapely animals they were about forty years ago; but have been completely changed into something as different from what they were then, as any two breeds in the island can be from each other. They are almost double the size, and yield about four times the quantity of milk that the Ayrshire cows then yielded. Formerly they were not of any specific breed, nor uniformity of shapes or colour, neither was there any fixed standard by which they could be judged. But now they are generally of a brown and white colour, in mixed patches; and rules have been adopted for determining the purity of the breed and excellence of their quality.

"These alterations, though they are extensive, have not been made by merely selling the farm stock, and replacing them with a different breed; but the changes have been effected upon the former breed, partly by skilful breeding, and still more by better feeding and treatment.

"But though these improvements in the dairy stock of Ayrshire were begun and brought to its present advanced state within the recollection of thousands who are still alive; and though I kept a dairy stock for some time in the centre of the district where these improvements were first introduced, and about the time that they began to be improved: I have not been able to trace the commencement of them to any particular person or family.

"About the year 1760, or between that and 1770, some noblemen and gentlemen who resided in the eastern and southern counties of Scotland, procured cows of some English or Dutch breed, who were much larger in size than any other then in Scotland; and when these were well fed, on the sheltered and improved lands round the seats of their owners, they yielded far more milk than the native cows. It was their greater size, and the superior quantity of milk they yielded, that induced these noblemen and others to purchase them; and wherever their feeding in Scotland corresponded to what they had been accustomed to eat, their owners were not disappointed. But when these large cows were turned into pasture that was much inferior to that on which they had been reared, they fell short in milking, as all cows that are not well fed will do.

"I am really uncertain as to the district or country from which these stranger cows were brought. They certainly were denominated Dutch cows when first introduced into Ayrshire. But from their being of a brown and white colour, I am disposed to believe they were of the Teeswater breed.

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[*] Elementary Spelling Book, page 152.

"Neither have I been able to discover who it was that first introduced them into the bailliary of Cunningham, nor to point out all those who did so. John Dunlop, Esq. of Dunlop, brought some of these English or Dutch cows to his byres at Dunlop house in Cunningham, soon after the year 1760. As they were there provided with the best of pasture, as the dairy was much attended to in that neighbourhood, and as the improved breed of the mixed brown and white colour came into vogue about Dunlop and Stewardton sooner than in any other part of Cunningham, it is likely that Mr. Dunlop's were among the first of the stranger breed that reached Cunningham.

" the Earl of Marchmount, about 1750, purchased from the Bishop of Durham several cows and a bull of the Teeswater or some English breed, all of a brown colour spotted with white, and his lordship kept them some time at his seat in Berwickshire. Bruce Campbell, Esq. then factor on his lordship's estates in Ayrshire, carried some of that breed to Sornbeg in Kyle, where they were kept some time, and their progeny spread over different parts of Ayrshire. A bull of that stock, after coupling with many cows on the estate of Cessnock, was by Mr. Campbell sold to John Hamilton, Esq. of Sundrum, and raised a numerous offspring in that quarter of Ayrshire.

"John Orr, of Borrowfield, Esq. about the year 1767, sent from Glasgow, or from some part in that neighbourhood, to his estate of Grougar, Ayrshire, several fine milk cows of a much larger size than any then on that estate. One of these cost six pounds, which was more than twice the price of the best cows then in that quarter. As these cows were well fed, they yielded a good return in milk, and the farmers in that neighbourhood were eager to procure their calves, in hopes of obtaining similar returns. Cattle of the same appearance were about that time brought to Eglinton, Loudon, and to the seats of other noblemen and gentlemen in Ayrshire: and as most of those were of the same colour, brown, spotted or freaked with white,—as all of them were larger, and when duly fed, yielded much more milk than the native breed,—their calves were reared by such as could procure them, and bulls of that breed, or even of their colour, were preferred to all others. From these, or from crosses of them with the native cows, the whole district has been stocked; and the breed has attained such celebrity, that they have not only supplied the counties of Ayr, Renfrew, and greatest part of Lanark; but, for about twenty years past, colonies of the improved breed have been carried from Ayrshire to every county of Scotland, and to many counties in England."

(From the New England Farmer.)

Mr. FESSENDEN,—For more than twenty years past I have fattened my own pork; and have supposed that an increase of one, or one and a quarter pounds a day was as much as could be expected from *good* keeping. On the fourth day of July last, I purchased two spring pigs, the joint weight of which was 108 lbs. On the fourth day of January they were killed, and weighed when dressed, five hundred and eighteen pounds; which is more than two pounds per day gain. These pigs were a small breed, had short legs, small head, and when we began to feed them with grain it was usually scalded. W. L.

New Haven, Feb. 1, 1832.

Why are potatoes the most nourishing of all vegetables?

Because of the quantity of starch they contain. Salop, tapioca, and sago chiefly consist of starch, and are proportionately nutritious.

MISCELLANEOUS.

THE COCHINEAL PLANT AND INSECT.

The U. S. Consul at Campeachy, in compliance with a circular issued from the Treasury Department, has communicated to the Department of State the annexed account of the cochineal plant and insect, the cultivation and propagation of which have been so profitably pursued in Mexico:

A tradition relative to the foundation of Mexico is commemorated on its coin, by the representation of an eagle, with a serpent in his beak, standing on the nopal, or prickly pear—the plant which nourishes the living insect known after death in commerce by the name of cochineal. The series of oval and fleshy masses, commonly called leaves, which constitute this plant, do not extend along the ground like the prickly pear of the north, but ascend into the air in the shape of a shrub or tree, the lower ones becoming converted into a woody stem. The great importance of the nopal to Mexico is generally known, but it is not perhaps as public, that since the independence of New Spain, the insect has been successfully introduced into the Peninsula of Old Spain, and bids fair to become a source of prosperity to that unhappy nation As the Peninsula of Florida, with a happier climate, has a much happier government; it is very reasonable to believe, that in a few years, this territory also will produce at least enough cochineal for the consumption of the United States.

The Royal Economical Society of Cadiz, after five years' attentive observations on fifteen generations of this precious insect, published in 1825 the result of their experience on the management both of the nopal and the cochineal best adapted to the seasons and people of Spain. The Indians of Oajaca, in its native Mexico, affirm that there are two varieties of this insect, the domestic and the wild; and that the latter is inimical to the former, and injurious to the plant upon which it subsists; but the society denies even the existence of the wild variety, and attributes to accident alone the inferior size and quality of the insects which originated this distinctive epithet. The Society also states that by experiments made on the various kinds of nopal in the vicinity of Cadiz, the domestic insects find sufficient matter for nutrition and growth to accommodate itself to all; that a scanty cultivation of these plants improve their qualities by rendering the quantity of the prickles less numerous, the texture of the cuticle more delicate, and the substance of the leaf more tender; and that hence the insect is enabled to attach itself with more facility in the manner most appropriate to its existence and preservation. The Society further asserts that in Spain, neither the insect nor the plant has been attacked by any of the numerous enemies to which they are subject in their native country. How encouraging are these facts to all Southern States.

The production of cochineal is effected with very little capital, and very light labour, but it requires great vigilance and care. The plants must be defended from heavy showers, from strong winds, and from intense cold, without depriving them in serene weather of the beneficial influence of the sun and atmosphere. Of the numerous varieties of nopal, a preference is given to those whose leaves have the fewest prickles, the most juicy substance, the tenderest cuticle and the most downy surface. As these qualities are changed by age, no plant is employed longer than three years. For a small experiment, a few insects may be attached to a leaf, a year old, planted in a flower pot, which may be removed or covered at the pleasure or convenience of the experimenter. The general cultivation of the nopal is commenced by that slight preparation of the soil which is usual for common horticultural vegetables. The leaves, eight days after cutting are planted about two feet from each other in facing files, which are six feet apart —Immediately around their tender roots, the weeds are extracted by the hand. If necessary, in the hottest and driest weather of summer, a little water may be sprinkled at the foot of each plant, early in the morning, or late in the evening, of every fourth day. The new leaves which do not sprout upwards should be cut off. Every bud which might form a flower, should also be separated. The plant should be occasionally cleansed from dust, webs, &c. by the breath or a brush gently applied.

At the end of the first year a sufficient number of young leaves have grown to support the insects. Two years afterwards, each plant is pulled up: one of its latest leaves is put in its place, and the others are taken to form new plots of nopal. A bed, twenty-four feet long and nine feet wide, will contain twenty-five plants, each of which in the third year usually has ten leaves. Each leaf may sustain a nest of ten mothers, and nourish well a hundred insects, which will altogether be twenty-five thousand, and furnish one pound of dead and dry cochineal. One person may attend a plot of six hundred plants, with leisure for other rural or domestic labours. Although four months are required for the reproduction of the insect, only three months from its birth are necessary for it to arrive at that grade of maturity and perfection in which it is killed for commerce. In the climate of Spain, the cultivator can calculate with safety on only the two crops between March and October, but as they will yield fifty pounds of cochineal, he obtains a lucrative reward for his life.

From its birth to its death the cochineal insect adheres firmly by its feet and its mouth to the leaf of the nopal, and if it accidentally falls, it perishes without attempting to return. When largest it is about the size of a small pea, is covered with a whitish powder, and is then ready to discharge its numerous offspring in thready envelopes. At this period eight or ten *mothers* are delicately separated by a slender stick, and collocated under a square piece of gauze, or other porous material, fastened at its corners to the lower part of a fresh leaf by its longest prickles. The progeny escaping through the pores, in twelve to eighteen days populate the whole surface. The middle of a sunny day should be chosen to confine the parents, as the young ones will then soon become dry enough to move with facility. The leaf whose insects are designed for propagation is not touched during the first seventy days of their existence. When the others are cleansed, especially in the latter periods, by the breath or brush, care must be taken not to separate the insects with the powder webs, &c. which may need removal. On their arrival at maturity they are killed and prepared for commerce in various ways. They are spread on line sheets exposed four hours daily to the strongest rays of the sun for ten or twelve days. Or they may be first put into an oven, as hot as the hand can bear, for eight or ten hours, and then be placed in the sunshine during six successive days. They are also prepared by pouring boiling water on them until dead and then exposing them to dry in the sun; by roasting them in a covered earthen vessel surrounded by hot ashes during several hours; and finally by suffocating them in a closed sack. It has been calculated that every mother contains upwards of half a million of insects, but being so extremely small and delicate, many must perish in the first days of their existence, and all the males which are winged at thirty to forty days, disappear as soon as they have fulfilled their destined functions. Nevertheless their fecundity is so great, that it is said they have furnished an annual exportation from Mexico to the amount of ten millions of dollars!

The nopal is also prized by the natives both of Old and New Spain, on account of its abundant fruit, which although somewhat astringent is pleasant to their taste, believed to be nutritious, and called the Indian fig. It is moreover highly esteemed for its beauty and utility in forming living fences for their little fields.

As my inquiries have been directed after plants of the most extensive practical utility, I now present the nepal as one whose advantages can be enjoyed alike by the rich and the needy; by the lady in her parlour, and the servant in her kitchen; by the planter around his palace, and the negro around his hut. It will form an ornamental enclosure for the gardens of the wealthy; a fruitful hedge for the patches of the poor; and will furnish both sexes and all ages of every family with a source of pleasant and profitable labour.

Henry Perrine,
U. S. Consul for Campeachy.

New York, 17th February, 1832.

Mr. Smith: *Portsmouth, Ohio, 9th Feb.* 1832.

Although not a subscriber, I have for a few weeks past been a constant reader of your valuable paper. I observe that you are anxious to receive, for publication, communications on the subject of agriculture; and on this account I have made a few rough notes, respecting our county, which I place entirely at your disposal. Respectfully, Increase A. Lapham.

NOTICE OF THE COUNTY OF SCIOTO, OHIO.

This county is situated on the Ohio river, at the mouth of the Scioto, and at the termination of the Grand Canal leading from Lake Erie. It has an extent of about 575 square miles, and a population, agreeable to the late census, of nearly nine thousand. Portsmouth, a town of 1200 inhabitants, pleasantly situated on the bank of the Ohio is the seat of justice. After the completion of the canal this town will possess commercial advantages, superior to most other towns in the state. Like Albany and Buffalo in New York, it will be a place where a large amount of merchandise and produce will be exchanged from canal to steamboat navigation and *vice versa.* Steamboats from the *south* will here land their rich cargoes of sugar, coffee, cotton, &c.; and receive in return the products of *our* soil from the canal.

The county is covered with hills, generally from 300 to 400 feet high above the bed of the Ohio. They are composed of a kind of sandstone or freestone and clay slate, with occasionally a bed of limestone. Although their slopes are generally so gentle, that they might be cultivated with profit, the soil is so much inferior to that of the *bottom land,* that they have hitherto received but little attention from the agriculturist. The hills however are valuable for their mineral treasures. Inexhaustible beds of iron ore of a good quality have been discovered, and ten or twelve furnaces are already in operation. Numerous iron works of various kinds are at work, and we shall soon have a mill for rolling and slitting. Coal has also been found in these hills.

In their general character these hills are quite singular. When viewed from the summit of one of them, they lose almost entirely the appearance of hills; all seem to rise to nearly the same elevation, so that their tops form a level line around us. They present no high peaks, no continuous ridges or other irregular sinuosities. From the summit of a hill in Kentucky, opposite Portsmouth, a fine prospect of this kind, including the valleys of the Ohio and Scioto, for several miles in extent, may be seen. From these appearances, and many others that might be mentioned, the speculative geologist would suppose that the country was once a plain, level with the tops of our present hills; and that the great valleys, as well as the smaller ravines, which are so common, have been worn down by currents of water. The hills are only the remains of this once level country, which have resisted the action of the water.

The valleys of the rivers are from two to five miles in width, they have a soil inferior in richness, perhaps to none in the world, and support entirely the present population of the county. Much of this land is annually covered by the high floods, which is considered an advantage—a deposite of a few inches of mud being left, which renders manure unnecessary. Thus the farmer has a rich soil, and is sure of its always remaining so; we hear no complaints of the land's being *worn out.* No rotation of crops, is required; *some* fields have produced crops of Indian corn for thirty years in succession, without perceptibly impoverishing the soil.

Indian corn is the staple—I might almost say the only agricultural product of this county; for hitherto the farmers have turned their attention to little else. From sixty to seventy bushels to the acre is an average crop, but with good management it is presumed 100 bushels might be produced in a favourable season. Many farmers have a slovenly way of cultivating their corn, and only produce thirty or forty bushels where double that quantity might be raised. I deem it unnecessary to make any observations on the manner of cultivating this valuable grain, since the publication of the Prize essay on that subject by a Western Farmer. The practice and experience of our most intelligent farmers go to show the correctness of his remarks.

This corn, a few years ago was taken to New Orleans, by the farmers themselves, in flat bottomed boats made for the purpose. These boats were then seen in great numbers floating down the current of the Ohio and Mississippi. The great and sudden fluctuation in the price of corn in that market, and the unavoidable dangers of this kind of navigation, have caused this trade to be now wholly abandoned. Farmers begin to see that they can make a greater and a surer profit by staying at home. For the last two or three years the construction of the canal and the erection of numerous iron works have required nearly all the surplus produce. It is now supposed, however, that a greater profit may be realized from this crop by "converting it into pork" as the expression is, instead of selling the grain. Many intelligent farmers are now engaging in this business.

It is a misfortune of our *horizontal county* that we have no waterfalls, and consequently no flouring mills. The culture of wheat, for which much of our upland is well suited, is therefore quite neglected. The erection of a *steam* mill, however, in Portsmouth, and the water privileges which will be created by the canal will soon remedy this evil.

THE FARMER.

Baltimore, Friday, March 2, 1832.

Cochineal.—We publish in the present number an interesting paper from Henry Perrine, Esq. American Consul at Campeachy, on the culture of cochineal. That no one may be led astray, or be made to incur expense in experimenting on this subject, in consequence of our publishing this article, we feel it our duty to accompany it with the remark, that there is no hope of our being able to cultivate the cochineal in the United States. Our reasons for this declaration are, that the plant on which the insect feeds requires the protection of a green house in this country. The winters even in Florida would certainly kill the plant unless it were well protected. The expense of protecting a plantation of the plants would be too great to allow of its profitable culture. The plant on which the cochineal feeds in Mexico is the *Cactus Cochinillifer,* or cochineal fig, of the family of prickly pears; the prickly pear common in the United States belongs to the same family, and the cochineal insect will live on it, but the dye thence made is worthless. It is absolutely necessary to the perfection of the dye that the insect be fed on the *C. Cochinillifer.* The cochineal insect is abundant in the island of Jamaica, where it feeds on the *C. tuna;* but it has very little of the colouring matter in it, in consequence of not having its proper food. If, therefore, it cannot be cultivated in Jamaica, how can we expect to profit by it in this country? We apprehend that the experiment in Spain will result in a failure, because the true plant cannot, we think, be cultivated there in the open ground.

Seasonable Hints.—The Baltimore American thus notices the approach of spring. We need scarcely do more than commend this article to the reader's attention—*one* of the hints particularly.

"As the season of tillage and horticulture approaches, we would admonish our rural friends not to let slip the season appropriate to particular occupations and cares, nor to neglect the hints of the various agricultural works which they have, or may easily have, and which may take the place of that more brief and less satisfactory oracle, the almanac. We are anxious to see these works, such as the American Farmer, carry their useful hints into all the recesses of the country-side, seeing that there are none whose effects tell so seen or so cheerfully on the eye, whether of the mere utilitarian, or of the lover of the picturesque. Right glad should we be to see the straggling fences of a large portion of our native Maryland, exchanged for verdant hedges; its 'old country-roads' assuming the aspect of the 'green lanes of England;' its 'old fields,' now abundant in mullen and brown-sedge, intersected, as they might be, with rows of mulberry trees, embraced by the vine. Art and industry have created this picture on many a soil not more genial by nature. On the contrary, when we have rode through some districts, and gazed sadly on the melancholy habitations standing rare amidst equally joyless fields, we have wondered whether the tenants, if they had ever read in any chance volume the praises of a country life, did not take it for irony.

"To the admirers of the 'rus in urbe' we must also renew our semi-annual exhortations not to neglect the season of transplantation. We are sure they cannot visit some of our cities without envying them the noble trees which only time can bring to perfection. Among the most beautiful spots in Philadelphia, even in winter, is the enclosure of the Pennsylvania Hospital, where those monarchs of the American sylva, the sycamores or occidental plane-trees, raise their venerable trunks a hundred feet in the air, and vie with, if they do not surpass in majesty, the architectural copies of Grecian art in other parts of the Pennsylvanian metropolis."

FOREIGN MARKETS.

Liverpool, *Jan.* 14.

Cotton—The import this week is 9578 bags, and the sales reach 17,620 bags, (including 2000 Americans taken on speculation) at last week's prices, viz: 180 Sea Islands at 9½ to 14d; 20 stained do. 5¾d; 6200 Boweds 5 to 7½d; 1350 New Orleans 5 1-8 to 5½d; 3500 Alabamas, &c. 5 to 6¾d.

Liverpool, *Jan.* 20.

Corn Exchange.—At this day's market we had a moderate attendance of wheat buyers, whose purchases were however materially influenced by a further advance of 1d to 2d per 70 lb. upon that of the previous Friday being demanded, and to which holders readily adhered.

Prices Current in New York, Feb. 25.

Beeswax, yellow 18 a 20. *Cotton,* New Orleans .10 a .12¾; Upland, .7½ a .10½; Alabama, .8 a 11. *Cotton Bagging,* Hemp, yd. 14½ a 17; Flax 13 a 14½; *Flax,* American, 7 a 8.- *Flaxseed,* 7 buhs. clean 16.00; rough 15.00; *Flour,* N. York, bbl. 5.37 a 5.50; Canal, 5.75 a 6.06; Balt. Hwd. st. 5.75 a 5.87; Rh'd. city mills —— a ——; country, 5.25 a 5.37; Alexand'a, 5.50 a 5.62; Fredericksburg —— a 5.25; Petersg. —— a 5.25; Rye Flour, 4 62 a 4.68; Indian Meal, per bbl. 3.37 a 3.50; per hhd. 15.75 a 16.00; *Grain,* Wheat, North, —— a 1.08; Vir. —— a 1.02; Rye, North, — a 85; Corn, Yel. Nor. — a 60; Barley, —— a ——; Oats, Sth. and North, .42 a 48; Peas, white, dry, 7 bu. 5. Beans, 7 bu. 7.00 a 8.00; *Provisions,* Beef, mess 9.00 a 9.25; prime 5.50 a 6.00; cargo —— a ——; Lard, 9 a .9½; Pork, mess, bbl. 13.00 a 13.50; prime 10.75 a 11.00.

General Agricultural and Horticultural Establishment.

Comprising,—A Seed and Implement Store; a General Agricultural Agency, and the Office of the American Farmer, in the basement of Barnum's City Hotel, Baltimore;

In Connexion with a Stock and Experimental Farm and Garden in the Vicinity.

By I. Irvine Hitchcock and Gideon B. Smith.

GARDEN SEEDS.

Just received from Europe at the American Farmer Office and Seed Store the following choice seeds all the growth of 1831. These, in addition to our previous stock, make our assortment very extensive and complete. Long Blood Beet, Turnip rooted do. Yellow Sugar do., Mangle Wortzel, Early purple Brocoli, White Cape do. Purple do. do. Green curled Savoy, Early Cauliflower, Late do., Early Battersea Cabbage, Early Wellington do. Early Sugar Loaf do. Early Dutch Turnip, Early White do. do Garden Stone do. White Flat Globe do. Red Top do. Large Norfolk do. Yellow Aberdeen do. Round Spinach, Prickly do. Ruta Baga, Vegetable Marrow, Early York, Sugar Loaf do. Bullock's heart, do. Emperor do. Battersea do. Yellow flat turnip, Yellow Bullock do. Mason's Scarlet short top Radish, Salmon Scarlet do. Common English Scarlet do. Large Cabbagehead Lettuce, Curled Cress, Curled Parsley, Lucerne.

GARDEN AND FIELD SEEDS.

J. S. EASTMAN has in 120 bushels CLOVER, the most of which is prime, and 50 bushels of Cow PEAS, TIMOTHY, Tall Meadow Oat GRASS, and Herd SEEDS, and a small quantity of English Lawn Grass SEED. Also just arrived per brig Hyperion an additional supply of Fresh Garden SEEDS; among them are a variety of best Garden PEAS and BEANS. His assortment of Garden Seeds are probably equal to any in this city, *and all fresh*, and which he will sell on reasonable terms at wholesale and retail.

He would also inform his customers, that he has on hand a large supply of PLOUGHS and other Agricultural Implements, which he trusts will sustain the credit of his establishment.

N. B. Persons making inquiry for my shop and are informed that there is no such person in this city in the Plough Business, will please continue up Pratt street to No. 36, between Charles and Hanover streets, where they will receive prompt and polite attention by their humble servant. J. S. EASTMAN.

LINNÆAN BOTANIC GARDEN AND NURSERIES, FLUSHING, NEAR NEW YORK.

WM. PRINCE & SONS, Proprietors, announce that the great extensions made in their Establishment, which now covers near fifty acres, completely filled with the choicest TREES, SHRUBS AND PLANTS, enable them to offer the various kinds at the reduced prices stated in their new Catalogues, which will be sent to any person who may apply for them. The size and excellence of the Trees exceed all former periods; and the most scrupulous attention has been devoted to their accuracy, which is invariably an object of their personal attention. To Nurseries they will allow a liberal discount and convenient credit. All letters desiring information will be replied to by the first mail. As many persons are agents for different Nurseries, it is requested that orders intended for us be particularly specified. Every Invoice sent has a printed heading and our signature, and such proof of origin must be insisted on, as we take upon ourselves no responsibility unless such an invoice can be produced.

Their Treatise on the VINE, describes 280 kinds of Grapes and their culture:—Their Treatise on HORTICULTURE contains descriptions of a great variety of TREES and PLANTS, and directions for cultivating them;—and their Pomological MANUAL, just published, contains full descriptions of above 600 varieties of PEARS, PLUMS, PEACHES, CHERRIES, APRICOTS, NECTARINES, ALMONDS, &c. besides other Fruits, so that all persons can make their selections, with a knowledge of the qualities. Apply at the American Farmer Office and Agricultural Agency, Baltimore.

FIRST RATE GARDEN SEEDS.

Just received a fresh supply of the different kinds of GARDEN SEEDS, from the most warrantable source in the neighbourhood of London. They were raised by the same gentleman who has in former years, and to the present, supplied me with those seeds that have proved so highly satisfactory to my customers—part of which seeds are as follows:

CABBAGES,—Early George, do. York, do. Screw, do. Wellington, do. Harvest, Large York, do. Imperial, do. Ox Heart, do. Durham, do. Flat Dutch, do. Drumhead, do. Penton, do. Battersea. SAVOY,—Green Curled, Yellow do. Cauliflower, Early, do. Late. Brocoli Cauliflower, White, do. do. Early Purple, do. do. Siberian. PEAS,—Early Charlton, Green Nonpareil, Blue Prussian, Magnumbonum, Blue Imperial, Knight's Dwarf, Woodford Marrows. RADISH,—Long White, do. Scarlet, do Salmon, Turnip Radish, do. White, do. Red, do. Purple, Black Spanish.

All kinds of Lettuce, Parsley, Beans, Beets, Carrot, Cucumber, Onion, Musk Melon, Cantelope, Tomatoes, Asparagus, Leek, White Mustard, Stone Turnip, Green Curled Endive, Parsnip, Corn Salad, Curled Cress, Solid Celery, Salsefy Seed, &c. &c.

SAMUEL AULT,

No. 78 Bridge street, Old Town, Baltimore, Second door above the Town Clock. Mar. 2. 1t*

FRESH GARDEN SEEDS, AGRICULTURAL IMPLEMENTS, &c.

SINCLAIR & MOORE, Pratt street wharf, offer for sale, a complete assortment of Garden Seeds of the growth of 1831, warranted genuine of their kinds; particular care has been taken to obtain the very best, both of English and American Seeds, specimens of which may be seen growing near their store; among the English Seeds just received, may be enumerated:

Fine Early York Cabbage, fine Early George Cabbage, fine Early Wellington Cabbage, fine Early Sugar Loaf Cabbage, Ox Heart Cabbage, Early Battersea Cabbage, Green Savoy Cabbage, Drum Head Cabbage, Red Dutch Cabbage, Early Purple Cape Brocoli, Late Purple Cape Brocoli, White Brocoli, Common Scarlet Raddish, fine Early short Top Raddish, a superior article; Early Salmon Raddish, Late Salmon Raddish, Grand Admiral Lettuce, Tennisball Lettuce, Ice Lettuce, Lazzy Lettuce, Corn Sallad, Asparagus (Giant) Genuine Brussels Sprouts, Green Curled Borecole, Brown Curled Borecole, Sea Kale, Summer Spinnage, Mangel Wurtzel Seed, White Clover, Luzerne, Perennial Rye Grass.

Together with a great variety of fresh and genuine Garden and Flower Seeds of other kinds, both European and American growth, for particulars, see Catalogues.

GRASS SEEDS.

Sapling Clover, Common Red Clover, White Dutch Clover, Luzerne, Timothy, Tall Meadow Oat Grass, Herds Grass, Rye Grass, Green Grass for Lawns, Cow Peas for improving Land, also, Seed Oats.

IMPROVED PLOUGHS.

A large stock consisting of the different sizes, with wrought and cast shares of our New Model, not surpassed by any ploughs known to us. McCormick's Patent Ploughs, Wood's Patent cast share Ploughs, the Patent self sharpening Ploughs with steel points, this valuable principle of keeping its points always sharp without smith expense until from twelve to sixteen inches of a steel bar is worn away, recommends it strongly to the public. Barshare Ploughs for rough lands, Hillside Ploughs, Double Mould board Ploughs, Cast Iron Cary Ploughs, &c. Harrows of different sizes and constructions. Improved Cylindrical Straw Cutters, Daton's Patent, Evans' and common Dutch Boxes, Wheat Fans, Corn Shellers, Steel Hay and Manure Forks, Hoes, Mattocks, cast steel Axes, Socket and Strapped Shovels, Spades, Garden and Pruning Tools.

BOOKS.

McMahon's Gardener, Fessenden, Cobbet, Cox on Fruit Trees.

Fruit and Ornamental Trees and Shrubs in great variety, supplied from our Nursery near Baltimore.

Feb. 24, 1832.

ENGLISH GOOSEBERRIES.

Will be received in a few days direct from Lancasshire, England, five hundred GOOSEBERRY BUSHES, comprising eight varieties of the largest and finest kinds cultivated in that celebrated Gooseberry district. They will be sold in lots of eight, one of each kind, at $3; or by the hundred at $25, if immediately ordered—the season having arrived for planting them out. As such an opportunity seldom occurs for obtaining so good a supply of Gooseberries on such terms, persons fond of this excellent fruit, are advised to avail of it.

Apply at the American Farmer Office and Seed Store, Baltimore. Feb. 17.

BALTIMORE PRICES CURRENT.

Baltimore Market.—A further reduction has taken place in flour and wheat. From wagons, Howard street flour was selling yesterday at $4 75 and 4 87½.—The store price is merely nominal, there being nothing doing.—Business of all kinds appears to be at a stand, and none more so than the country produce trade. It is confidently anticipated, however, that there will soon be a revival.

Tobacco.--Seconds, as in quality, 3.00 a 5.00; do. ground leaf, 5.00 a 9.00.—-Crop, common, 3 00 a 5.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 10.00; yellow and red, 8.00 a 14.00; yellow, 14 00 a 16.00.—Fine yellow, 16.00 a 20.00.—Virginia, 4.00 a——.—Rappahannock, 3.00 a 4.00——Kentucky, 3.50 a 8.00. The inspections of the week comprise 284 hhd. Md.; 7 hhds Ohio—total 291 hhds.

Flour—best white wheat family, $6.75 *a* 7.25; super Howard-st. 5 *a* ----- city mills, $5.00 on time, *a*——; Susq.— *a* —; Corn Meal bbl 3 50; Grain, Md. red wheat, .90 *a* —-; white do .95 *a* 1.05, Susq. — *a* —Corn, white, 35 *a* 36—yellow 37 *a* 38—Rye, 73 *a* ——Oats, 33 *a* 36.—Beans, 75 *a* 80—Peas, 65 *a* 70—Clover-seed 6.00 *a* 6.50 —Timothy, 2.25 *a* 2.75 Orchard Grass —— *a* ——-Tall Meadow Oat Grass 2.00 *a* 2.50---Herd's, 75 *a* 1.00--Lucerne — *a* 37½ lb —Barley,—Flaxseed 1½ *a* 1 5-S-Cotton, Va. 7½ *a* 9-Lou. 9 *a* 12—Alab. 8 *a*. 10—Tenn. .7½ *a*. 9; N. Car. 8 *a* .9½-Upland 8 *a* 10½-Whiskey, hhds. 1st p. 30 *a* 31; in bbls. 32 *a* 32½---Wool, *Washed*, Prime or Saxony Fleece 49 *a* 57; American Full Blood, 40 *a* 45; three quarters do. 36 *a* 40; half do. 34 *a* 36; quarter and common do. 30 *a* 34. *Unwashed*, Prime or Saxony Fleece, 30 *a* 34; American Full Blood, 26 *a* 28; three quarters do. 24 *a* 26; half do. 22 *a* 24; quarter and common, 18 *a* 22——Hemp, Russia, ton, $225 *a* –; Country, dew-rotted. 5¼ *a* 7c. lb. water-rotted, 7 *a* 9c.—Feathers, 37 *a* 37½; Plaster Paris, per ton, 4.75 *a* —-, ground, 1.37½ *a*—bbl. Iron, gray pig for foundries per ton 33.00 *a* ——; high pig for forges, per ton, 28.00 *a* 30.00; bar Sus. per ton, 72.50 a 80.00.—Prime Beef on the hoof, 5.50 *a* 6.00—Oak wood, 3.50 *a* 4.00--Hickory, 5.00 *a* 5.50.

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EDITED BY GIDEON B. SMITH.

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AGRICULTURE.

IMPROVEMENT OF WORN OUT LANDS.

First Premium Essay, Agricultural Division.

BY R. K. MEADE, WHITE POST, VA.

(Concluded from page 402.)

Here we might stop, and say in reference to the improvement of poor land, go and do as Dr. Ravenal has done, if it did not appear necessary to dwell on some of the particulars which are essentially connected with the ways and means of amassing the greatest quantity of the best compost our materials can afford. The construction of a farm pen then in the first place is a matter of material importance, inasmuch, if an attempt is made to accumulate great quantities of manure in one injudiciously laid off, the health of stock will inevitably be injured; therefore, it should be so constructed as to afford dry shelter and shade at all seasons, with an opportunity of feeding under them; but in addition to this, square covered racks, holding a wagon load of straw each, should be arranged along the centre of the farm pen, and kept full of some kind of rough food all the year round. By this mode of fixture the cattle will be tempted to feed all around them, consequently will be passing to and fro across the materials deposited for decomposition all over the pen. Those who have not tried it, cannot well imagine the quantity of straw eaten by cattle, at the very period too, when the succulence of grass makes it a wholesome corrective to their habits of body. It is as good for them in the summer months, as occasional grazing on rye, &c. would be in the winter when they are principally confined to dry food. But especially when a little brine is sprinkled on it, they take large mouthfuls; the brine that is usually thrown away, the result of an operation which supplies the farmer with that delicious domestic luxury, ice cream, is sprinkled on the straw at least once a week. They are sometimes so satiated with it as to be regardless of salt at their regular periods of licking it. *Query*—will not this free use of salt pay well the expense of the ice-cream, in the improvement of cattle, and the enriching of the milk and manure? The yard should be large enough to admit of a very gradual slope to the centre, with drains to pass off a sudden overflow of water, and ditched around to secure the sheds against the least interruption from the rain, and if they are kept clean, which is done with but little labour, cattle will soon get into the habit of spending the hours of daily rest there, instead of losing as they do in the woods a *deal* of the finest manure, &c., so important to the decomposition of the dry materials which are from time to time deposited in the yard.

It is a fact worthy of relation, that the sound leaves which are placed a foot thick as the first stratum in the pen, whether in the spring or fall, are in the course of the six months completely decomposed, mixed and worked up by the treading of the cattle, with the corn stalks, straw, &c. as to be one, and indivisible. This composition retains much water in a wet season, which makes it the more necessary to attend to the cleansing of the sheds, not merely for the sake of the cattle, but to make a timely, which is, immediate mixture, of the green dung with the mass of leaves, &c. When the heap of dung is dry the stock will lie upon it, and drop much more of their dung all over it, thereby lessening the labour of clearing the sheds. Although this is not the most perfect system for the improvement of cattle, as it must more or less disfigure and dirty them, and be offensive to their noses, which should be avoided if possible, it is an essential part of that system, where there is a giving and taking, a general and necessary compromising for the common good of the farming establishment,—an example perhaps which might be imitated to great advantage in higher places where animals of a superior order should rationally combine in promoting the greatest prosperity of their more extensive farm. But if these cattle were thought too valuable to be thus soiled and turned to some other exclusive object, and not permitted to have ingress to consume the straw, and convert the materials in the farm pen to good manure, a general injury would be felt throughout the varied interests of the farm for the want of it.

If our politicians by the hundred, men of long experience, extensive learning, and varied acquirements, should find it so difficult to regulate matters to the best advantage on our national farm, as regards giving and taking, why should it be thought so easy, and a matter of course, for a single ordinary individual to bring into harmonious and prosperous connection the varied interests of a smaller farm? Our poor lands, lean purses, and abandoned tenements, reveal the secret, that not only industry and temperance are required, but talents also.

It is believed to be an undoubted truth, that no man has ever yet lived long enough on a tract of land, however extended his being, diligent his ways, or bright his conceptions, to explore more than a portion of its resources. A well managed farm will of course keep no more stock than can be of good quality; will be regulated by its fertility and production, rather than by its extent. A deal of poor land can raise but little stock, while a small rich one can raise much. The quantity of ground to be ploughed, and all other matters must be done with a due regard to the interests of the whole. A tract of land in the secrets of nature, is capable with the art and assistance of man, of production to a great and certain amount. How are these secrets to be found out? by a fool, a drunkard, an illiterate, or an indolent man? no, rather by the reverse of all these qualities. Henceforth then, let the subject of agriculture be a field for the talents and virtues of many more of our young men; not as formerly, giving it a mere passing glance when they have become tired of other matters, but lend their youth and strength to its support, honour it with their most zealous, first born efforts of genius and affection, and they will receive in return substantial wealth, health, and happiness.

But let us again proceed with the diligent collection of materials for the farm pen, for we are too apt to take advantage of the old saying, that all work and no play will make Jack a dull boy. We have five months, with the exception of frosts in the winter, and exceedingly busy seasons in the summer, to gather materials and scatter them in the farm pens, at least as fast as they can be properly mixed with the animal manure; and one month, more or less to convey the manure with all possible force to the fields. But farmers say they have not time *to cart out their* manure after they have made it, and that making, nothing more than casting their stalks and straw &c. rudely about the yard which has been constructed without convenience or economy, for the cattle to pass over or not, as may be. Yes, they truly indeed have no time, they are too busily engaged in the hard work of destroying their land by much ploughing, without manure or even the aid of grass, and its roots, so valuable a help to fertility.

There is one most important way of adding to the stock of manure, which should never be neglected by a neat farmer, especially as it is killing two birds with one stone. It is going over the whole extent of the cultivated part of your farm, and around every fence, with a horse cart, and cutting up by the roots all the weeds, and young briars that may have sprung up in the course of the spring and summer, before any of them shall have gone to seed. These green weeds when trodden in with the leaves, which may frequently compose the majority of the great mass of manure, assist much in decomposing them, with their succulence, and, sometimes, acrid qualities. It was said that two birds were killed with one stone, but I discover three or more; namely: an addition to the stock of manure, the immediate relief of the land, and preventive to their spreading by the seed, a fine growth of grass encouraged in the fence corners, &c. &c.; on the general and particular advantage of leaves as a manure, I will refer you to the essay of last October, in the American Farmer.

When in the spring the cattle are turned to grass again, reserve a prudent supply of the best secured straw for summer use in the racks, all the rest should be from time to time scattered over the yards as a fall supply of manure. The winter crop having been previously carried to the corn fields, &c., and turned under. The fall crop which will be much finer and more completely decomposed, should be harrowed in on a rough ploughed surface, most especially on thin land.

The practice of hauling out straw by wagon loads, to cover land whether with or without grass, is believed to be truly unfarmerlike, especially when covered so thick that the grass is effectually killed, of course the pasture destroyed if the land is bare and very poor, it is a weak and inefficient manure, little more than shade applied when animal manure is required. If this straw was neatly spread on knolls, and cattle penned upon it, there could be no objection, and this is indeed one of the ways of improving poor land worthy of attention. Straw, leaves, or what not, will have the effect of shading more or less the animal manure and urine, while it is making its way into the earth. There is an objection that in very dry seasons a considerable portion of it evaporates, lying thin as it does, while the farm pen deep with muck retains the greater part. But loose or not, a farmer should always have two or more pens for the same stock of cattle, to insure their comfort and health, as well as to promote the greatest economy in manure making; bringing a portion of it immediately and principally, without the labour of hauling on the point you wish it. Summer cow-pens are then important. He may pay too much for the whistle, even in making manure. It should occupy no more than its due place; therefore crowd not the regular farm yard with more litter than can be judiciously manufactured. I once injured a fine stock of hogs by going into an excess of accumulation in their pen. 75 ox-cart loads, equal to 225 horse-cart loads, were made in the course of the year.

Plans should be studied to save labour in every routine of work, but especially in the making of manure. It is then further recommended to select a place most contiguous to your summer fallow for a pen on the following plan. The depth of your soil may in some measure regulate the size of the pen; but at any rate, it must be sufficiently roomy for the number of cattle, say 30 or 40 to half an acre of ground. Virgin earth within, or by the side of a thin wood with the deepest soil should be preferred; ploughed so deep with a barshare as to raise on the surface an inch or so of clay. provided the soil is not more than 6 or 7 inches deep, then comes a good bed of leaves for the cattle to lie upon, and protect their dung and urine from evaporation; fresh beds of leaves should be applied as often as it is discovered the former ones are trodden to pieces, or the pen uncomfortable for the stock to lie upon; by this process in the course of two months, more or less, there will be a mass of excellent manure formed, some six, eight or nine inches deep, which should then be crossed with a high-beamed barshare, mixing and lightening the mass as a preparation for hauling it on the contiguous poor grounds. Every half inch of this compound should be sufficient to cover a half acre of land as a top dressing, so that one pen would manure 12, 16, or 18 acres, or the half of it only, if the ground it was put on is known to be so obstinate and greedy as to require it an inch thick.

To have gone very specially into all the useful minutiæ which will be discovered by every farmer who has the least observation, and will seriously set about a system of manure making commensurate with his means, would have required a little volume. We will therefore pass on to the other pens, and say that the horse pen should be well covered from time to time with leaves, &c. &c.—a covered rack in the middle, well stored with hay, and troughs for their other feed judiciously placed. But from dear bought experience it is recommended that horses should never be kept in an open pen at a season when there is a probability of their taking cold by exposure, after having been overheated at any work, for I have reason to believe that some years since I lost several most valuable ones by such exposure in the winter after being overheated in treading out clover seed. But this treading business is by the by, happily superseded by machinery, and a winter's work is now performed in three or four weeks at farthest.

However valuable may be the proceeds of the sheep pen, more than from three to six months' confinement at night cannot be required of them, in reference to their health and general prosperity, in the various climates they inhabit. It would be the worst possible policy to exchange any portion of the soundness and delicacy of their mutton, or the beauty, strength and product of their wool for a few loads of manure, which by other arrangements may be as well made. Whenever the shepherd feels a warm disagreeable miasma, or rather effluvia, arising from the pen, it is time to exercise his discretion in giving them the liberty of the lots and fields, where they will select for themselves a high, dry, agreeable situation.

A propensity to dwell on this subject, reminds us of the propriety of passing on to the hog pen, as we are engaged in the work of manure making for our poor fields. From hogs properly managed we get out best manure, taking into consideration the fineness of its manufacture as well as its relative strength, which might perhaps be rather presumptive to pronounce decidedly upon, but it is admirably adapted to a broad cast, spread by the shovel, at the rate of 15, 20, or 25 ox-cart loads per acre. A solid pavement with sufficient inclination for their dirt to be always working off, to lower ground where leaves &c. are deposited, should be constructed with sheds just above it. They should be frequently bedded with fresh leaves to prevent the mange, a disease they are very subject to.

From the barn yards we now remove to the house and its appurtenances, as a source of much greater improvement to poor land than it has ever been made. It is almost too disgraceful and disagreeable to relate that all the dirt and filth coming from many an establishment, otherwise respectable, is permitted by a careless broadcast system to "waste its sweetness in the desert air," instead of bringing it carefully together at one point, there to accumulate, putrify, and occasionally be corrected by a covering of lime, until a fit opportunity offers for taking it to the fields to gladden the heart of poor expiring vegetation. There is no calculating the mass of good manure that may be made by the exercise of a uniform discipline where there is a little settlement of houses, as must be expected on a considerable tract of land, in bringing every dust of sweeping to one point; all slop water should either be carried or drained to it; soap-suds which has just been the greatest cleanser, is the worst poison when thrown carelessly at the door. Let this simple question be put to those who have the freest opportunity of making their election between disease and death on the one hand, or life and rural enjoyment on the other—between an enriched grain field, or fine verdant prospect in front, or a dirty, sickly back-yard, with often a poor expiring domestic. Will it not be more agreeable, with early industry, thrift, and attention to perfect cleanliness, to enjoy the one, than by indolence and negligence to endure the other.

The point to which every species of dirt and trash is brought, should be excavated to the depth of a few inches, regulated by the situation of the ground, and surrounded by a stone wall some 4 or 5 feet high, and as large as the extent of your materials require. Over one side of which should be a house for the domestics; when on a hill side, drains should be made to it, on the upper side and under the wall—if the grounds are not broken enough to admit of this facility, barrels should be used, one for every house, suspended by an axle through it, one-third of the distance from the top, so as to empty its contents with ease; this axle must play in standers affixed in the main axletree, having block wheels, shafts then push it with ease to any contiguous point. This fixture which can roll 25 gallons at a time, is valuable to carry slop from the kitchen to the hogs or cows.

One more abundant and convenient source of manure will be mentioned, as there will be no danger of poor land complaining of too much. An experiment has been made by ploughing as deep as well could be, in a rich black soil in a clear place in the woods, a patch of earth, permitting it to be exposed through the summer; in September it was deeply reploughed, and was as light as ashes. Fifteen ox-cart loads of lime, the core of a kiln which had been long saturated with water, was hauled on it, and ten loads of dripped or spent ashes, as our soap makers term them, and well mixed in the whole mass, which turned out about 100 loads of the mixture, which was hauled immediately on some near thin land and spread at the rate of 25 loads per acre on the rough ploughed clover ground, and harrowed in with the wheat. The exceedingly visible stimulus it produced during the month of October, and early in November, proved that it should have been put on double the quantity of ground, as the ashes and lime were much more powerful in their operation than was anticipated. Here now is a case in point to shew the importance of knowledge and experience, both chemical and practical. Had the experimenter been aware of the strength of his combined materials, he would have spread them over eight or ten acres of ground, instead of four, thereby manuring more than double the ground by the facility of a little head, or book work.

The various sources of manure are much more abundant than are generally imagined. They are overlooked by excess of cultivation, and through the facility of cutting and clearing more land instead of improving what is already cleared. The writer had anticipated considerable aid in making out these suggestions from a gentleman of peculiar ability and experience, and well situated to give the most satisfactory advice on the subject, surrounded as he is by poor lands; but improving his own by means and measures, as rapidly as prudence and circumstances permit. Some men have the capital to seize upon a worn out tract, and expend hundreds or thousands of dollars immediately in its recovery; but few would have the knowledge to expend to advantage, because a certain measure of patience is required, however great be the stock of wisdom and wealth. Others must support their families while they are bringing in annually a few rich acres, improving a few more at a greater distance, and gradually preparing the lands at a further remove, for their turn of improvement. Burning the soil with him is one of the sources of fertility; putting every little glade in grass to make hay to be carried on the hills to the stock, instead of tending it in corn to feed the horses while they are ploughing and destroying the upland, and not raising as much as they and their followers consume. Should I receive anything like a system in detail on the subject, as I anticipate, it will give me pleasure to forward it to the Farmer pure and unadulterated. The manner in which we still clear our grounds of their timber, as adverse to their progress in fertility, is well worthy of a concluding remark. Some most reputable writer on the subject (I believe Col. J. Taylor,) thinking it of so much importance to have the stumps and large roots come up with the trees, recommends enclosing the ground securely, and cutting away the large roots around the trees and wait for a wind to blow them all up, or down; however, we are informed in the Farmer that brother Jonathan has a stump machine that will clear a piece of land of stumps two feet across with ease; if this be the case, no farmer should hesitate to give a fourth of the price of his land per acre to have it well cleared of these enemies of efficient cultivation. The firewood gained would be worth 25 per cent. of the cost of clearing it. If all thought as I do on the subject, some persons might make a handsome business of travelling with machines through the country. If grounds are at all broken, the roots cause the cultivation to be so superficial that most of the soil is washed off before the stumps are half rotted; whereas if the plough in the first place could go a uniform and uninterrupted depth, the soil might be so mixed and managed as to progress in a regular way of improvement, and the ploughs, and harrows, and hoes would be saved many a jirk and bruise. It would be very desirable where only one, two, or half a-dozen acres are cleared per year to have it thus managed, it might cost too much in new countries.

Having been engaged for some four or five months with due force in preparations for storing our pens with materials which would otherwise have laid idle, though not always harmlessly, about and about; the time has arrived when much energy is required to undo in one month what has been doing in several. The farmer's mine of gold is to be worked with the greatest expedition and economy. This is too, (spring or fall,) the busy ploughing season, requiring all the efficient horses. Oxen then, and ox-carts at one-fourth the cost, must be employed. They carry heavy burthens on a single axletree, and if all be properly managed, two, or four ox-carts, with one or two teams will, with three or six hands, carry out to any reasonable distance their five hundred or a thousand loads, in the month, equal to three thousand horse-cart loads. The facility of raising this manure into well constructed carts with proper implements, is well to be understood. A good hand should always have by his side a light shovel, straight, and crooked fork; with this equipment the load will always be ready for the driver, if he goes to the distance of the fourth of a mile.

Comparisons are odious—they would be truly so, if we could for the sake of demonstration, arrange along side of each other two farm yards, the one above described, with a hand on each side of a cart, (with wheels five feet high, four inch broad tire, wide and short body, eight and a half feet, easy to tilt, with convenient sideboards to slip in when necessary,) with forks striking deeply into a bed of manure from one to two feet thick, and occasionally using the shovel to make clean and expeditious work of it. The labourers standing in wooden soaled shoes to keep the feet comfortable and avoid colds. A steady and regular going and coming is the consequence; a little greasing every morning, no stalling, or tearing wheels to pieces as with the former narrow ones.

Into the other yard, covered thinly with manure, a four wheeled wagon with or without the body is introduced, drawn by horses, mules, or oxen, as may be, with half a dozen hands to load it, with their medley forks and hoes. The load having been lifted, half the hands proceed to the field with the wagon to assist in the tedious process of unloading, while the others remain to saunter about or scrape up with their hoes the scattering manure for the next load. The narrow wheels cut deeply into the ground freshly ploughed, and retard the operation greatly. This process with the ordinary interruptions where the making of manure is not considered a first rate business, gets out some ten or fifteen loads per day at the farthest, until the crop is removed. Perhaps some farmer will urge that as his manure has cost him so little care, trouble, or labour to make it, that he can afford to misapply some labour in getting it out. We wish such more correct views of the subject.

Manure should be never put in larger piles than can be scattered well from that point with a shovel or fork, without stepping a yard from the spot. It must be evident from what has been said that the most substantial part of a system of improving poor lands, is to enclose, rest, feel their pulse by the grasses, amass the greatest quantity of fine compost, and apply it near the surface, on a rough ploughing, well harrowed in. But our lands have been destroyed by such a variety of means, that a wide field is open to administer to their restoration; and if a generous contribution of talents and practical observation is brought forward to their aid, there is good reason to believe that much may be done by it—the subject in all its bearings is truly inexhaustable.

I have thus, sir, in a plain way given you a portion of my experience on the subject proposed, without any regular system or arrangement. If the suggestions it offers are worthy of the consideration of our farmers, if the principles and practices are esteemed useful, and may probably even at a remote period, be put into action, I shall be more highly gratified, much better rewarded, than if by a well polished essay, elaborated by much thinking and reading, it could have succeeded to your honourable premium, which I trust will be annually renewed for the benefit of our agriculture, as long as the American Farmer has a name.

In taking a farewell of this truly national subject, permit me briefly to recapitulate, and again suggest the all importance of adding to the natural and physical means of improving poor lands, the moral and scientific.

Can we improperly invade the province of the politician, or the moral reformer, by searching out and exposing in all its bearings the origin of our poor lands, the reasons for its unfortunate connexion with ignorance, intemperance, (another name for a host of immoralities,) and slavery? We hope not, for the pages of the American Farmer should be as purely agricultural as possible. These are the subjects, thank Heaven, which are now agitating the thinking and virtuous part of the community with intense interest and anxiety, soon we hope to settle down in their judgment and affections, as principles of flourishing and unfading duration. Education, rational abstinence, and colonization, noble cotemporaries, on which our agriculture is as absolutely dependent for its prosperity, as they are on the benevolent causes which will put them into action. As a Virginian, I rejoice that our late convention has in effect taken such mighty strides to put into a course of vigorous investigation the great subjects which have weighed down our general prosperity. To dwell at all on them would be both too tedious and painful; suffice it to say, that Virginia, once the most wealthy, powerful, and influential state, has sunk, and is still sinking beneath her sisters. The great cause, what? emphatically slavery. But her legislators are once more roused to the necessity of doing. They can shut their eyes no longer on the poverty stricken fields, nor turn a deaf ear to the tale of thousands, who say, poor as my land is, I must continue to harrass it in corn to feed my hogs and my negroes. In a different state of things these poor gullied fields would be exhibiting now, the beauty and the riches naturally flowing from good cultivation, and the abundant spread of improved flocks. Colonize, then, by appropriations as liberal as can be judiciously employed. Emancipate, only on the basis of successful colonization, with the most profound discretion. As a nation of farmers have we not reason to indulge the most pleasing anticipations that the fertility of our worn soils will be restored by the improvement of our moral habits, on the abandonment of strong drink? Every neighbourhood should have its Temperance Society; every inducement whatever should be held out, through perseverance, industry, temperance, and economy, to sustain the old rather than abandon it for a settlement in the west.

A judicious system of internal improvements, amongst other means, will ever be one of the most substantially operative ways of restoring poor lands, especially when they are scarce of timber, &c. Let our legislators look to it. To conclude then a subject which has so many interesting bearings, and such a multitude of intricate connections, as scarcely to permit an opportunity to escape from it, it must be declared that tedious as this essay may be, it is made up of mere suggestions for the future operation of better intelligence throughout our vast and happy country; nor is it a matter of minor importance to recognise that we are flattered with the aid of the intelligence of so well educated a class of our citizens as the student of divinity; they too make their acknowledgements at the shrine of agriculture. That their physical powers must be dependent for health and vigour on its controling influence. We demand then in exchange, the aid of their science to convert our poor lands to rich—and while we would seriously invoke a blessing on all their most useful and righteous endeavours, we would respectfully suggest that a due participation in agriculture might even enhance the value of their holy doctrines and practice.

(For the American Farmer.)

CHEAT OR CHESS.

Greatfield, Cayuga Co. 2d mo. 20th, 1832

In my article on CHESS, (forwarded on the 16th ultimo) I mentioned the case of a farm on which none of *that weed* had been discovered in several years,—my excellent and enlightened friend believing it *a perfect plant,* that like *other foreigners,* the dock and the cockle, could soon be excluded from his grounds. Since that date in looking over an old volume of *The Plough Boy,* I find the following statement by the venerable Dr. Alexander Coventry of *Utica,* which is well deserving of our consideration:

"When I resided in what is now Columbia county about 35 years ago, I found the opinion of farmers in general in respect to *chess,* was conformable to that entertained by *Agricola.** But I there became acquainted with a very excellent farmer and intelligent man by the name of Mesick; when conversing with him on the subject, he affirmed that *chess* was a distinct grain, as well as wheat or oats; and that wherever *chess* sprung up, it had either been sown with the last or a previous crop; and affirmed *it was in the power of the farmer to avoid having chess in his fields:* in proof of which he showed me a field of wheat belonging to him, where no *chess* was found, although *it had been partly winter killed,* and *in spots injured by too much moisture.* Adjoining, and *only separated by a fence, was the field of his neighbour, where chess flourished abundantly.* Mr. Mesick was extremely careful to prevent any *chess,* that might accidentally have got on his land from ripening, and was very particular in his seed; when he had occasion for seed, he generally had four times the necessary quantity threshed out, and after the German custom, threw it the length of his barn floor, selecting from the further part of the heap, the largest and heaviest grains for seed, and taking only one-fourth of the whole. I am fully convinced of the justness of this man's opinions and *have tested the efficacy of his directions by many years' practice.* There is not a shadow of doubt in my mind that *chess* is a particular species of gramina, as much as wheat or rye." Vol. 1. pp. 401, 2.

In another communication, Dr. Coventry in reply to *Agricola,* says,

"If this gentleman would favour me with a call at my residence, I would introduce him to a neighbour, who had a crop of winter wheat, part of which being sowed with clean seed, had not a particle of *chess,* whereas another part of the same soil, and sowed in the same day, but with seed having *chess,* abounded with *that weed.*" Vol. 2. p. 140.

At page 118 of the same volume, a correspondent announced that a head "was filled on *one side* with *wheat,* and on the *other side* with *chess*"—at least so he had been told. The editor thought the FACT worthy of consideration, and requested that *the head* might be produced. We have not heard of it since.

From the same work I copy the following remarks of a gentleman of New York under the signature of *Quercus.* Every scientific botanist must allow that these are dictated by strong sense, and a full understanding of the subject. I only regret that his language was not more courteous towards his opponents, some of whom at least were as willing as himself to take the right track, but who had not been so successful in finding it.

"The plant called *chess* by farmers, differs as materially from wheat in all its characters, as a sheep differs from an ox. This plant is well known by scientific men as an entirely separate plant, having no connection with wheat, rye, oats, clover, timothy, or any other grass, farther than that they are sometimes found growing together in the same field. It is distinguished as the *Bromus secalinus,* or rye broom grass of *Linnæus,* and is faithfully described and figured in *Sowerby's* botany. It belongs to the same class and order of vegetables as wheat, and the other cerealia, but is of a different species and genus. The obvious features by which it will strike the casual observer, as distinguishing it from wheat, are, that its flowers are borne in a panicle or on numerous branches; it has a solid, slightly furrowed or channelled, many jointed stalk; the upper side of its leaf is downy or hairy. By inspection of the wheat plant that will be found to possess none of these characters. The seed of *chess* also is as different from wheat as rye, oats or barley.

"The deductions of botanists are usually made from close and accurate observations, and from the immutable and uniform laws of nature; laws which control and direct all creation, and without which character of immutability, our world would soon *degenerate* to a state of chaos. It is, therefore, a fundamental rule in science, that when a phenomenon occurs, which apparently impugns the designs, harmonies, and perfections of nature, that it should be investigated with the strictest attention and most rigid scrutiny, until the explanation be made to conform to the established order of things.

"Intelligent men will not be satisfied with the cursory and bird's eye view of the passing traveller, or the hasty and impassioned observation of disappointed ignorance, which endeavours to conceal its own neglect, under the mask of nature's transformations; and science, before she will record the reports of men, must be satisfied that they are the results of the patient and laborious examination of intelligence; the cool observations of good sense and discretion, made from day to day, and from year to year. It is by such investigations, that the harmonies and consistencies of nature are developed, and there is not recorded a single instance of an anomaly or repugnance in her works, such as is endeavoured to be established in the transformation of wheat into chess.

"Another rule equally important but as often neglected, is that when a phenomenon can be explained upon natural and consistent principles, no others must be sought after or admitted.

"Tested by these rules, it is evident that the remarks of *Agricola* upon the subject of *chess,* are unworthy of serious attention; because his examinations have not been pursued with the eye of critical intelligence, nor are his deductions conformable to the uniform plans of nature; and I will further observe, that it is much to be regretted, that writers so superficial in their examinations, and incautious in drawing conclusions, should publish to the world opinions and statements, so much calculated to mislead the unwary, and to embarrass and discourage judicious exertions." Vol. 2. p. 42.

I have no wish to convince any farmer "in spite of his sober senses." I only wish him to employ those senses in such manner as to accord with well attested facts, and the laws of nature. **D. Thomas.**

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* This was the signature of a gentleman of Ontario county, an old neighbour of mine, who afterwards acknowledged that he had embodied the popular notions respecting *chess* for the purpose of eliciting facts and arguments; and that in consequence of the statements in *The Plough Boy* he had become fully satisfied that *wheat would not turn into chess.*

Mr. Smith: *La Grange, January,* 1832.

The listless apathy of planters generally, has often been the subject of my reflections; while our less enterprising but more prudent brethren of the north and east, deem no expenditure of money or mind, devoted to agricultural purposes, wasted or misapplied; we of the south, folding our arms in supine indifference, dream away the precious moments, while our lands are rapidly deteriorating, and our crops annually lessening, without an effort to retrieve the one, or improve the other; who better merits the title of blessed, than he who devises fertile and beautiful lands, his own worthless and exhausted inheritance. I know no consideration which would so soon induce me to yield my political tenets, and become a *national republican,* no arbitary assumption of power by perversion of the federal constitution, which I would sooner sanction, than that law which should make it obligatory upon those, by whose wretched systems fertile lands were exhausted and rendered worthless, to cultivate them the remainder of their lives. Wretched inexplicable infatuation; if patriotism, if philanthropy know no place in our bosoms, let selfish principles, at least, prevail, let the welfare of our families and offspring point out to us the necessity of a different course. Of that system which tends at once to the improvement of our lands and our crops, how much have we to learn, of the means of even partially obviating the many accidents, and sometimes entire failures to which cotton growers are subject; how little do we know, how seldom have we an essay, or even a suggestion, for lessening the ravages of the cut worm, the rot, and the rust, or a treatise on even the rudiments of planting, either too indolent or too careless to turn our attention to these vitally important subjects, or deeming every one equally well informed as ourselves, or lost in unavailing complaints relative to a tariff, an evil of itself, God knows, of sufficient magnitude, without the many debits by which we unjustly swell the account. Residing myself, in a section of the south-west, noted for absence of discipline, and every thing like a regular and judicious agricultural system, where each man, as is natural among such men, adheres more pertinaciously to his own opinion than to his coat; during the prevalence of a bleak north wester, I seek abroad that information, which is inaccessible at home, and crave a division of those fruits which may be garnered up by minds more discriminating and experienced than my own. Through the medium of your useful paper, I would gladly exchange the little knowledge I possess, for the treasures of better disciplined minds; I write, not to impart, but to elicit information, information which *practical* men have *tested by practice.* Of the origin and means of destroying the cut worm, by which we were, the past season, more grievously taxed, than by all the tariffs or imposts ever levied by the federal government, know we nothing? On the rust and the rot, what treatises have we? or have we any system applicable in the main, to the cultivation of the cotton crop, or any means of learning the soil and locality to which this general system may be inapplicable, as always happens, under the same latitude, and sometimes within the limits of the same plantation.

There is one fact upon which, I think, cotton growers are agreed, yet we find it difficult to act, even upon this, with any thing like concert, that is, that it would greatly conduce to our pecuniary interests and general comfort and independence, eventually, if less time and labour was devoted to raising cotton and more to other crops; in this way we might lessen our *present* incomes, but at the same time we greatly lessen our expenditures, and with a little management, for a little while, our incomes might be increased without an increase of expenditure, though so long as cotton is raised to even half its present extent, it will remain an object of primary importance among us.

In preparing for this crop, my lands are first laid off in beds four feet apart, (this appearing to be the proper distance on average uplands,) and three furrows thrown together, and just preceding planting, two others are added, which, when the bed is split with a small *bull tongue* or *gopher,* leaves the whole fresh broke and free from germinating grass seeds, which are apt, when putting up at the same time or before the young cotton, to smother the tender plant, and give it a *backset,* from which it rarely recovers; my seed are then sown as they are taken from the pens, without the tedious process of rubbing, adopted by many, and which I conceive, entirely useless; they are then covered with a wooden harrow, from which the middle fore-tooth has been taken, or never inserted, with a heavy roller attached to the hinder part to break the clods and compress the earth about the seeds, which insures earlier vegetation, and hardier plants, and the surface of the beds are less subject to bake. I should now prefer breaking the balk, lest it become hard, and be attended hereafter with difficulty in breaking it *deeply* and *effectually.* The young cotton should be immediately gone over with the hoes, and as soon as admissible, thinning commenced, not with the fingers, a painful and tedious process, but by striking the hoe carelessly through the drill, leaving in a place two or three stalks, the most unpromising of which are afterwards to be taken out, and now follow the plough, striking a furrow on each side the cotton, with the bar to the drill, throwing up a list on the balk or middle, thus (if the ploughs turn well) smothering the young grass, and leaving the cotton in a situation, again to be gone over with the hoes, with more facility and despatch. The board should now be turned to the cotton, and the first furrow filled, or thrown back, and then the balk broke a second time, *deeply* and *thoroughly.* The ploughs are no more required, but skimmers, if needed, running lightly, to avoid breaking and wounding the roots, which impedes the growth of the cotton, and lessens its product.

All lands, in producing the same crop several years in succession, have a tendency to tire, therefore to insure good *stands* and vigorous plants, no land should be continued in cotton longer than two or three successive years at most, nor do I know of any better means than this, of avoiding the ravages of the cut worm; special care and attention should be given, in the first instance, to lay off the rows to the best advantage, and afterwards they may be easily annually reversed, four feet being a good distance for corn as well as cotton.

In all agricultural operations, a special eye should ever be had to the preservation of the soil, as well as to the greatest possible product from the least labour, and nothing conduces more to either object, than *deep close* ploughing *seldom repeated.* The product of my corn crop the past year, with one good ploughing, after balk breaking, was eight or nine barrels per acre, while an adjoining field with six ploughings, produced only six barrels, and while, in addition, a heavy crop of peas, smothering the weeds and fertilising my lands, fed and fattened my pork, my neighbour's field was overrun with grass and noxious weeds. I have been in the habit of laying my rows off horizontally, not with a level, but by the eye, which answers equally well, when done by a skillful ploughman, and if any defect may be discovered, the rows can be a little altered the second year, though I would recommend that very broken lands be principally cultivated in small grain. I have ever avoided in preparing my lands for a crop, that wretched system of gleaning closely and committing all to the flames, nor have I ever found any inconvenience originating therefrom; on the contrary, my lands were evidently fertilised and pulverised by the decomposition of this matter; I suffer nothing to be taken off, which will not obstruct a strong plough drawn by a strong *mule,* (evidently and decidedly far the best animals which can be employed on a southern plantation,) unless indeed, it be taken to the farm yard, to be returned with interest. Let me again insist, that nothing so much conduces to preserve our lands, facilitate our labours, and increase the products of each, as *strong well fed teams,* and *good ploughs,* and these placed in the hands of able skillful ploughmen, properly superintended.

Arator.

Why has the barberry been banished from the hedgerows of England, where it formerly grew in great abundance?

Because it was generally believed to be injurious to the growth of corn. This belief has been treated as a vulgar prejudice; but the fructification of the barberry is incomplete, unless the stamens be irritated by insects, when the filaments suddenly contract towards the germ. The flowers are, therefore, by a beautiful arrangement of nature, peculiarly attractive to insects; and thus barberry may become injurious to neighbouring plants.

HORTICULTURE.

(For the American Farmer.)

THE OLIVE.

"The cultivated olive came originally from Asia, and grows abundantly about Aleppo and Lebanon; it is naturalized in different parts of the south of France, Spain and Italy, and found in hedges and woods; but the fruit of that kind is small and of no use. *Olea europea,* var. *longifolia* is the variety chiefly cultivated in the south of France and in Italy. *Olea europea* var. *latifolia* is chiefly cultivated in Spain; its fruit is near twice the size of the common olive of Provence and Italy, but the oil is so rank of flavour as to be too strong for most English palates. The oil, and fruit in a pickled state, are sent chiefly from Languedoc, Leghorn and Naples to England; the best oil is from Leghorn, and the best pickles from Genoa and Marseilles. The tree seldom exceeds thirty feet in height, is branchy, glaucous, evergreen; and of so great longevity, that some plantations in Italy, as at Terni, are supposed to have existed from the time of Pliny."—Loudon's Enc. of Plants.

The olive in the warmer parts of the temperate zone, has, from time immemorial, been considered one of the most important objects of culture. The cream and butter, derived from the richer pastures of higher latitudes, is well supplied by the fruit of this tree to the inhabitants of Italy and Spain. How far north can it be cultivated in the United States? What attempts of this kind have been made north of Florida? and what is known of the constitutional powers of this tree gradually to adapt itself to colder climates?

The olive "is propagated by suckers, large cuttings, or truncheons planted in trenches four feet deep, into which it is still the custom to deposite stones for encouraging moisture about the roots as described by Virgil. It is also propagated by chips of the stool;—or it may be grafted on the *privet,*" which belongs to the same natural order *oleinæ.* In regard to increasing it by large cuttings or truncheons, *Jackson,* in his account of Morocco mentions the following circumstance: "There is an extensive [plantation of olive trees] in the neighbourhood of Messa, the trees of which are of great size and beauty, and are planted in a very whimsical and peculiar manner. I inquired the cause of their being so arranged, and learned from the viceroy's aid-de-camp, who attended me, that one of the kings of the dynasty of Saddia, being on his journey to Soudan, encamped here with his army; that the pegs with which the cavalry picketed their horses, were cut from the olive trees in the neighbourhood, and that these pegs being left in the ground on account of some sudden cause of departure of the army, the olive trees in question sprung up from them." Z.

Why are potatoes unfit for cooking when they begin to sprout?

Because their fecula or starch then becomes sweet.

(From the New England Farmer.)

Dedham, Mas. Feb. 17th, 1832.

Dear Sir,—Inclosed is a letter to me from Wm. Robert Prince, Esq. and my reply, which I send you for publication in your valuable paper. Should you, upon perusal, think them worth spreading before the public, you will much oblige your humble servant, by letting them appear in your next paper.

Very respectfully, your obliged friend and servant,
J. H. Cobb.

To the editor of N. E. Farmer.

J. H. Cobb, Esq. *Lin. Bot. Garden, Dec.* 15, 1831.

Sir,—Your favor of 20th October, in reply to mine of 15th, came to hand on 13th ult. and I am pleased to find that the explanation made and your subsequent examinations, have produced such conviction on your mind, as to authorize the remark therein, that you are satisfied that we "*have the real Morus multicaulis and were the first persons who sent it into Massachusetts.*" The cause of your misapprehension we now fully understand, and we feel also assured that you will render justice to our exertions to preserve an undeviating accuracy.

As we have been co-laborers in the same cause with yourself, I avail myself of the present occasion to make some comments on the subject. In the years 1787 and 88, the present Wm. Prince, sen. raised an immense number of silk worms and made various experiments in regard thereto, and in 1789 he had silk gloves manufactured at Philadelphia. The worms being well fed and attended to, spun their cocoons in twenty-two days and they were of the largest size. The silk, when prepared for the loom and boiled in soapsuds made from the white soap, was perfectly white and glossy, and proved very strong. He constructed a reel of pasteboard, to wind two skeins on at a time; twelve of the silk worms' threads formed one thread of silk for each skein, which passing through a wire with two holes or rings, the wire being connected with the axle of the wheel, causes the thread to be wound in a zigzag manner upon the reel. The silk, after being doubled and twisted, contained 144 of the natural threads; that number being requisite to form a thread coarse enough to be woven by the finest loom for stockings and gloves, then in Philadelphia, according to a sample sent by the weaver.

In the spring of 1826, when the subject of silk culture created an universal interest among our citizens, being myself desirous to concentrate every information possible, relative thereto, I sent to France for every publication connected with the subject; and in return, received *eighteen* distinct works. The Hon. Richard Rush, then secretary of the treasury, being called upon about that period by congress, to prepare a complete manual upon that subject—my father, Mr. Wm. Prince, had the satisfaction of replying to a number of communications from him and Dr. Mease, and of imparting the information desired from him in the progress of that work; and some of the publications which I had imported, were also loaned them at their particular request, they not being obtainable elsewhere. I am happy also to add that our intelligent fellow citizen, Dr. Felix Pascalis, has found them useful to him in the course of his scientific elucidations, and even at the present day I believe duplicates of some of them are not to be found in our country.

The same sentiment which dictated the importation of books, influenced me to import all the requisite trees; and I forthwith ordered from France, Italy and elsewhere, every variety of the mulberry, used for feeding silk worms. The result was, that the Morus multicaulis, *now so called,* was comprised in those importations under *another name,* and its culture had already been considerably extended in our nurseries, before it had received its present title or its superiority had been made known.

Wishing to disseminate these new varieties, I freely presented them to those interested in the silk culture, and among others, to Gideon B. Smith, Esq. editor of the American Farmer, and if I mistake not, his tree of the Morus multicaulis, which is only one of the *progeny* from my original trees, was sent him before the same kind had been imported by any other person. That gentleman recently stated to me, that he had near 150 fine trees which he had raised from the single one of the Morus multicaulis, which I had sent him, and that he had also reared a number from the other varieties. I mention these facts merely to show that we have not been guilty of culpable indifference to the great national object.

Supposing it may also be satisfactory to you to test the respective merits of the new varieties, I herewith transmit you six trees, each one of a distinct kind, as per invoice annexed; and as no one can feel a more ardent desire for the development of our country's resources, and for the attainment of a *perfect* national independence, than my father and self, no one will exult more at that ample success, which we feel confident will consummate the exertions which you and others are making, to advance the silk culture.

Very respectfully, Wm. Robert Prince.

Wm. R Prince, Esq. *Dedham, Mas. Dec.* 28, 1831.

Sir,—Yours of the 15th inst. was received several days since and is now before me; various engagements have prevented me from giving a more prompt reply. I have received, with great satisfaction and pleasure, the trees which you have sent, consisting of six different varieties of the mulberry, according to the invoice, viz.

1 Morus multicaulis.
2 " constantinopolitana rozea.
3 " tartarica.
4 " lucida lobata.
5 " laciniata.
6 " macrophylla.

I have no doubt that upon further acquaintance with them, important advantages will result. It is by no means yet fully ascertained, what variety of the white mulberry will best suit the different parts of our extensive country, and it is only from repeated experiments, and careful observations, that the most useful knowledge in the arts is to be obtained. I know of but few to whom greater credit than yourself is due, for early attention and accurate observation in the important departments of botany and horticulture.

I am satisfied that the mistake, as regards the trees sent me and mentioned in my Manual, page 22, arose from misapprehension and from the species not being sufficiently designated among the great variety in your catalogue; and on reference to the invoice sent me, I find that the trees sent are not therein designated as the *Morus multicaulis,* but as the *broad leaved Chinese mulberry,* by which I understood to be meant the Morus multicaulis, but it appears that there are more varieties of the broad leaved Chinese mulberry, than I was acquainted with. I saw the trees from your original stock, in the garden of Gideon B. Smith, Esq. of Baltimore, during the last summer. I also saw, as I suppose, some of the books which you had the liberality to import and put into the hands of the most eminent and respectable Dr. Pascalis. The instructions contained in them for rearing silk insects, are not well calculated for our country, though they furnish much valuable information.

I regret that Mr. Wm. Prince, senior, your respected father, did not persevere in his patriotic labors in the culture of silk; although for his actual efforts he must be considered a benefactor to his country. I fear it will be a great while before we shall raise silk enough for home consumption. I am obliged to use the China silk chiefly in my manufactory; it is running on my spindles now. Instead of pursuing the old fashioned way, of twisting one thread at a time, I have a *throwsting mill* of one hundred and sixty-four spindles and am now throwing silk off from sixteen to twenty cocoons.

I hope to be able to supply my mill altogether from American silk in a few years, but the art of filature is so imperfect at present that I cannot depend upon it, but use chiefly foreign raw silk.

Wishing you all success in the development of horticultural resources, and particularly in the culture of the vine and mulberry,

I remain, respectfully, your friend and servant,
J. H. Cobb.

(From Bridgeman's Young Gardener's Assistant.)

CULTIVATION OF BEANS.

BEANS. (Kidney Dwarf.) Haricot. *Phoseolus vulgaris, etc.*

Varieties.—*Early Yellow Cranberry—Early Mohawk—Early Dwarf Cluster—Early Yellow Six Weeks—Early Dun Colored, or Quaker—Early China Dwarf—Early Black Dwarf—Large White Kidney Dwarf—White Cranberry Dwarf—Red Cranberry Dwarf—Warrington, or Marrow—Refugee, or Thousand to One—Rob Roy—White Cutlass Bean of Carolina—Bonavista.*

These kinds of Beans being all excellent, I shall leave my readers to choose for themselves. The early kinds will come to perfection in from six to eight weeks after planting. Some of the other kinds will keep longer in bearing, and are esteemed by some on that account. These, with some of the early kinds, may be planted in the months of May and June. If a regular succession of young Beans be wanted throughout the summer, some of the early kinds should be planted every two weeks from the last week in April until the beginning of August. These Beans require light rich soil, and may be planted in hills (three or four in a hill) or drills about two inches deep, and the Beans two or three inches from each other; the drills may be from two to three feet apart. (The Refugees are best planted in hills.) As the Beans progress in growth, let them be carefully hoed, drawing the earth up to their stems at the same time, and they will be soon fit for the table.

The Bonavista is a new Dwarf Bean, by many considered equal to Lima Beans. They grow nearly two feet high.

BEANS—(Pole or Running.) Haricots a rames. *Phaseolus Limensis.*

Varieties.—*Large White Lima—Sieva or Carolina.*

Phaseolus Multiflorus.

Varieties.—*Scarlet Runners—White Dutch Runners—Dutch Case Knife* or *Princess—Red Cranberry—White Cranberry.*

The Beans of the latter species may be planted the latter end of April, and in May and June, either in hills three feet distant from each other, or in drills about two inches deep. The poles should be eight or ten feet long, and may be fixed in the ground before the Beans are planted.

The Carolina and Lima Beans should not be planted in the open ground until the second week in May, unless the season be very favourable, and the ground warm. As these Beans are apt to get injured by cold and damp weather, let six or eight Beans be planted half an inch deep round each pole, and afterwards thinned, leaving three or four good plants in a hill, which hills should be from four to five feet distance from each other every way.

The soil for running Beans should be the same as for Dwarf kinds, except the Lima, which requires richer ground than any of the other sorts.

If any of these Beans are wanted earlier than the ordinary seasons, they may be planted in flower pots in April, and placed in a green house or garden frame, and being transplanted in May with the balls of earth entire, will come into bearing ten or fourteen days earlier than those which are planted in the natural ground.

CULTIVATION OF PEAS.

PEAS. Pois. *Pisum sativum.*

Varieties.—*Early Washington, (or May Pea,) grows to the height of 2½ feet—Early double blossomed Frame 3 feet—Early Nimble Dick 2½ feet—Early Frame 2½ feet—Early Golden Hotspur 3 feet—Early Charlton 3 feet—Early Petersburg 2½ feet—Dwarf Blue Imperial 2 feet—Dwarf Blue Prussian 2½ feet—Dwarf Prolific, or Poor Man's, or Strawberry 1½ feet—Dwarf Spanish or Fan, 1 foot—Dwarf Marrowfat 3½ feet—Dwarf Sugar, (eatable pods) 3 feet—Dwarf White Albany 1½ feet, (Field Pea)—New Nonpareil 3 feet—Ladies' Finger Marrows—Waterloo Blues 4 feet—Matchless or true Fall Marrowfat 6 feet—Large Grey Rouncival 4 feet—Dutch Grey 2½ feet—Knight's Tall Marrows, or Honey Pea 6 feet—Knight's Dwarf Marrows 2 feet—Tall Crooked Podded Sugar 6 feet, (eatable pods)—Dwarf Green Albany 1½ feet (Field Pea.)*

The above list and description of the most esteemed kinds of peas, is taken from the Catalogue of the Messrs. Thorburn and Sons of New-York. If they are rightly described, they will grow to different heights, according to soil and season. This description, however, may serve as a guide for the gardener in planting. The dwarf peas require less distance between row and row, and shorter sticks than the tall kinds.

Planting the early kinds of peas should commence as soon in the spring as the ground can be brought into good condition: all the other sorts, as well as the early, will answer for successive crops; to obtain which, a few of the most esteemed kinds should be planted at the same time every two weeks, from March until the end of May. Persons desirous of having peas throughout the summer and fall, may plant a few in June, July and August. The peas should be then soaked in soft water five or six hours before planting, and if the ground be dry it should be watered in the drills.

Gardeners practice different modes of planting peas; some plant them in ridges, others in drills, some in single rows, others in double, some use sticks for the dwarf kinds, and others not; those who study neatness will have them all rodded though the most dwarfish may do without.

All the different sorts of peas may be planted in double or single rows from four to six feet apart according to the different heights they may be expected to grow. If two drills be made three inches deep, and six or eight inches apart, and the seed dropped along each drill moderately thick, they will yield better than single rows, and will save sticks. When the plants are two or three inches high let them be hoed, drawing at the same time a little earth up to their stems, when they get to double that height let them be hoed again, at the same time place a row of sticks in the middle of your double rows, and a few shorter and smaller ones on the outside of each row, to assist the peas in climbing to the main support. You must be governed as to the length of your sticks by the description of your peas. There is a great advantage in having sticks of a suitable height, to the various kinds of peas; the sticks should not only be sufficiently tall but also branchy, that the plants may readily take hold; and they should be prepared fan-fashion, so that the side branches may extend only along the rows. As the plants progress in growth, let them be repeatedly hoed and earthed up; this will promote a plentiful bearing.

Silk and the Mulberry tree.—Mr. Van Schaick, of the Assembly, on the 17th ult., offered a resolution, to appoint a committee to enquire as to the practicability of introducing the manufacture of silk in this state, and as to the expediency of granting a bounty for the cultivation of the mulberry tree. The resolution was adopted; ayes 40, noes 22.—*N. Y. Farmer.*

(From the New York Farmer.)

CAPE BROCCOLI.

Cold Spring, Long Island, Feb. 18, 1832.

Having been often told that no seed of the cape broccoli could be raised here, that would produce good plants, I thought that a few remarks might prove useful. That they will grow most luxuriantly, I am convinced; and that they will flower well, I am certain, having now on hand, from seed grown here, some of a very good quality, a specimen of which I shall endeavour to send you with this communication. But by giving you an account of the manner in which the plants and seeds were managed, and by suggesting a few improvements, perhaps I shall best convey my ideas.

In the year 1829, Daniel Rogers, Esq. of this place, procured from Grant Thorburn some seed of the purple cape broccoli, which he planted, and from which he had some good flowers. Some of those which did not flower at that time he kept, and in the spring took them from his cellar, and planted them out for producing seed. They produced well, affording sufficient for that same season, besides a considerable quantity kept over. The plants from this seed grew well producing many fine flowers; but on account of the long drought about the time of transplanting, they were kept in the seed-bed till late, which made them late in coming to maturity; so that some time in December they were stowed away in a common cellar; where hardly one of them failed to flower in the course of the winter. In the following spring, Mr. Rogers furnished me with some of the above mentioned seed, which was sown about the first of June. The plants grew well, and were set out between the rows of an apple tree nursery of three years' growth, and some of them were planted immediately under the shade of large apple trees. These generally grew rapidly, and continued to increase in size until the middle of October, and even the first of November, producing some flowers of a very good quality, but rather late, a consequence naturally to be inferred from the manner of raising the seeds, which as before mentioned, were from the latest flowering plants.

At the time the cold weather set in this winter, I had about one hundred plants left out, which had commenced flowering. Finding that the cold was not likely to moderate, I took them up, and stowed them in my cellar; but in doing it, the ground was frozen so hard as to render it necessary to use a crowbar, exerting considerable strength to force it through the frozen surface; these have all continued to increase in size, and the specimen is taken from among them.

As there seem to be objections to the above method of raising seed, on account of the plants coming later and later into the flowering state, I would recommend, for those who wish to raise their own seed, to plant so that they may attain to their full size, without flowering, at the time the severe frosts set in, then select the largest, and stow them away in a cellar that will admit frost in the coldest days; this will not injure them. but it will keep them from flowering until March. From these, the finest should be selected for seed.

Should some person think that the above mentioned objection is not entirely removed, then adopt the following:

Take those plants which are somewhat advanced in flower, when the frosts set in, and put them away in some place where they may be kept surrounded with snow or ice: thus they may be kept frozen until spring, when they may be planted for seed. I have great confidence in this last method, because those plants now in my cellar, which are advanced to the proper state for the table, had commenced flowering at the time they were taken in, and had been frozen like rocks for several days. Among near an hundred, there was not a single instance of rotting; but they stood still for a month, or perhaps more, then recommenced their career of blooming.

Excuse me for spinning out this communication to such a length, for I have been obliged (in order to abridge it) to leave out several remarks which I designed to make. I am, with respect, &c.

R. M. Conklin.

LARGE PRODUCT OF A GARDEN.

Mr. Smith: *Annapolis, Md. March 1st*, 1832.

The following is the product of about half an acre of ground. The garden whence the produce was obtained, although comprising an acre of ground, yet the grass walks, slopes, &c. occupy at least half an acre, so that we may fairly estimate the last year's crop, as being produced off the quantity of ground above mentioned.

Exclusive of carrots, radishes, cabbages or greens, lettuce, parsnips, and celery, the quantity of these not being ascertained, I gathered: cymlings, 442, cucumbers, 52, potatoes, 1110, ears of corn, 548, beets, 108, citrons, 7, green globe or cardoon artichokes, 12, green peas, 3½ bushels, being the produce of fifty-five circles, snap beans, &c. 1 bushel and a peck, tomatoes, 1247, pods of fall peas, (green) 1219.

Having for the first time last year, tried the method of planting peas in circles, I find it to answer fully my expectations, the increase being greater than could possibly be obtained in any other way, on the same complement of ground. I would recommend the sowing of different kinds of green peas in the same rows or circles, as they save time and labour, since they succeed each other, accordingly as they are the forward or latter sorts, in regular rotation in coming to maturity.

I would here observe, that I by way of experiment last August, transplanted from my strawberry beds a peach tree, which stood the winter admirably well, and promises to be a thriving plant. J. F. B.

RURAL ECONOMY.

TREATMENT OF THE HORSE.

The harshness and abuse with which we see the noble animal, and useful servant of man, daily treated in our streets, give to the following remarks, on the education and treatment of the horse, much worth and interest:—They are by Thomas R. Yare, of London, and are copied, by "The Friend," (a paper published in Philadelphia,) from the "Sporting Magazine."

"Buffon says, 'horses in their natural state are by no means ferocious; they are only wild and fiery;' and it may be added with equal truth, that they are not naturally vicious: for their ill tempers, as well as manners, originate entirely from defective education, and rough handling.

"Harsh usage and punishment are of no avail as corrections: for, under cruel discipline, the horse becomes more obstinate, morose, and irritable, and is very soon rendered dangerous of approach. If on the contrary, you use him kindly, and he finds that instead of a tyrant. he has a friend about him, he will be under your hands as tractable as a lamb: in fact so subservient that you may do anything with him—for it is well known to those acquainted with the nature of the horse, that no animal is more susceptible of soothing, nor more docile and grateful for gentle usage, as he invariably evinces cheerfulness on the approach of the person from whom he receives kind treatment.

"An occupation for which I have always felt a peculiar partiality, has been, the study of the temper and disposition of the horse; and, from the observations I have in consequence made, am convinced, that a multiplicity of errors are committed from ignorance of his true character in the rearing and tuition of that noble animal, which afterwards fall heavily and very unjustly on him.

"Many horses have been intrusted to my care for correction, under the supposition that they were bad tempered, or viciously disposed, which, in other hands, would, without doubt, have been acted upon accordingly--i. e. rendered more faulty by harsh proceedings. On acquaintance with them, I generally found the poor animals to be only nervous and irritable from ill treatment, rather than vicious by nature; in short, 'more sinned against than sinning;' for no sooner had I gained their confidence, than the tremulous awe and timidity they evinced on being approached, totally disappeared; and after a short trial, I have returned them to their owners, divested of the alleged complains, with this simple injunction, or something tantamount to it. 'Use him kindly, for vicious conduct makes vicious horses;' at the same time urging them to bear in mind, 'that the horse is naturally of a gentle disposition, and much disposed to associate with man.'

"This may be exemplified by any gentleman recollecting the pleasure a horse seems to feel when noticed and carressed by himself; yet, on scrutiny, the same demonstrations of joy will not take place on the approach of the attendant. Education generally imparts humanity and feeling to its possessor; and a gentleman enjoying these qualities more eminently than his domestics, the animal's discrimination causes him to recognise a difference in the behaviour of each towards him.

"Grooms are too prone to be harsh and hasty towards the horse; whearas, if they would only study to make a pleasure of their duty, they would considerably abbreviate the routine of their labour. In consequence of erroneous conduct, horses will occasionally acquire a character for viciousness among stable men, which cannot be substantiated on reasonable grounds, the presence of the owner being frequently a complete refutation to the assertion.

"Horses usually evince attachment towards those who use them kindly. His late majesty, George III., had a favourite charger named Adonis. Whenever the king, on visiting his stables, chanced to pass near enough for Adonis to hear his voice, the animal would commence whining with joy, and his recognition of his master was always accompanied with so much noise, that, to quiet him, his majesty would invariably command him to be saddled and led forth. Having rode him for a few minutes round the premises, the gratified animal would then return peaceably to his quarters; but had the king not humoured his wish, the animal would have become uproarious.

"Till within a very short period, I was not aware any person had publicly treated on the subject of humanity to horses with the same views entertained by myself; but I perceived with pleasure, in a review of a work printed on the continent, that the author justifies my opinion, and corroborates the truth of my remarks. One extract I have preserved, which I cannot do better than quote.

"'It is justly asserted, in the best works of rural economy and the veterinary art, that *no horses are naturally vicious*. When they become vicious the reason is, because we pay too little attention to the horse, and do not study his nature sufficiently; and hence rather resort to the whip and spur, to signify our wishes to this noble animal, than to kind and gentle treatment. In a word, we know not how to make ourselves intelligible to the horse. It seems truly astonishing, that horses in general are not more obstinate; and that, in the consciousness of their strength, they do not strive more to rid themselves of their slavery, when we consider how severely, cruelly, and barbarously, these generous beasts are treated. How often are they beaten and ill used, frequently without any cause! and how seldom, on the other hand, are they addressed in terms of commendation and encouragement, and still less rewarded! and yet attentive observers have ascertained, that the horse, like the elephant and dog, possesses a sensibility of the nerves which might be termed a sense of honor, and which is equally susceptible of praise and blame.'

"Vicious habits may likewise be ascribed to imperfect training. For instance: a horse is entrusted for that purpose, to the care of a person totally unacquainted with the manner of treating him, consequently incapable of judging whether the horse be qualified by nature to fulfil the intentions of the owner. The age and strength of the animal have not been taken into consideration; and his incapacity to undergo the fatigue allotted to him, although proceeding from weakness, has very incorrectly been ascribed to stubbornness and obstinacy. Resistance, as may be expected, has been the natural consequence; harsher usage has followed; the temper of the animal has become soured; and he has really imbibed a vicious character, which, at the onset, was only imaginary. The result has been open warfare between him and his rider, in which the latter seldom gained an ascendency; and the former has never been duly trained for the purpose for which he was destined; indeed he has frequently been rendered quite unserviceable, and become afterwards a drug in the market, though nature had intended him to be useful in many capacities; which under judicious management, would doubtless have been realized.

"For a long series of years I have been in the habit of making observations on the errors committed in the usual treatment and training of horses, and I am convinced, from experience deduced by long study of the nature of horses, and continual intercourse with them, that mild discipline is the *sine qua non* of stable-management, and it is the interest of every proprietor to see it enforced. Patience and good temper are cardinal requisites in a groom. Horses have very retentive memories, and seldom forget the unruly tricks or habits acquired from improper and hasty handlings."

(From the Genesee Farmer.)

FOWLS.

It should be remembered by those who keep fowls, that they will not do well when fed upon whole dry grains, unless they have plenty of gravel stones: these should be supplied them as regularly as any part of their food. Again, if they are shut in close pens, they should be supplied with lime in some shape, otherwise they will lay eggs with soft shells, Where they can be had, pounded clam or oyster shells should be given them; where these are not convenient, rubbish from old walls or lime mortar will answer, or pounded lime stone mixed with the gravel stone. As to the breeds of the common barn fowl, it is somewhat a matter of fancy: and if we go upon the principle that a small fowl only consumes food in proportion to its size compared with a large one, it does not appear so material only as regards the shape, proportion and color which render them more valuable when dressed. So far as our observations have extended, we think a mixture of about from one eighth to one quarter of the Malay breed with the common dung hill fowl, gives as fair proportions and color as any brought to our market: with these proportions the color is uniformly brownish yellow, with yellow legs and skin, which is preferred by most people in this country, Sir. Wm. Curtiss's opinion to the contrary, notwithstanding, to those with black legs, the size good, and flesh fine; whereas the Malay breed when pure are long legged, and rather coarse in the flesh, and the young are more tender and difficult to raise, which may be owing to their nudity, as they are not covered with feathers as early as the common breed.

Nothing is more becoming in youth than respect to their elders.

Nothing endears a servant more to his employer than never to abuse his confidence.

THE FARMER.

BALTIMORE, FRIDAY, MARCH 9, 1832.

CLOSE OF THE VOLUME.—The present number completes the 13th volume of the American Farmer, and we have to make our acknowledgments for the continued and increased patronage bestowed upon it. Such evidence of public approbation, is doubly gratifying, and we shall endeavour to show our gratitude by continued exertions to deserve it.

We are reluctantly compelled to defer the Index to the next number, when it will be sent to all who have received the volume.

THE LANCASTER MISCELLANY.—This is the modest and unpretending title of a weekly paper published in Lancaster, Pennsylvania, with which we desire to make our readers better acquainted. We say *better* acquainted, for we presume there are very few of them that are aware of its existence. We discovered it ourselves at a friend's house in Pennsylvania—stumbling upon it, as many a traveller does upon its neighbour, the pretty cowslip, (Dodecatheon media) on the banks of the Conestoga, where they least expect so beautiful a flower. It is decidedly the best miscellaneous paper with which we are acquainted, and cannot fail of being highly interesting to all persons, high or low, rich or poor. Every sheet contains a little of every thing; general intelligence, comprising the news of the day and current events; pleasing tales; brief notices of the arts and sciences, including mineralogy, geology, botany, &c. all which are treated of in a pleasing style, entirely exempt from vulgarity and embarrassing technicality, and free as refined gold from the least alloy of quackery and politics. It is published by Edmund Barton, Esq. and edited by Redmond Conyngham, Esq. at the low price of $2 a year in advance. We most heartily recommend this paper to the attention of our country friends—they will find it a most agreeable dessert after the substantial dishes served up in the *Farmer:* a delightful flowery arbour for an evening hour, after the toils of our plough and pruning hook.

FOREIGN MARKETS.

LIVERPOOL COTTON MARKET, *Jan.* 20.

The inquiry for cotton throughout the week has been rather limited, and prices of the middling and better qualities of American descriptions are barely supported. Brazils are without change. Maranhams remain in good demand, and clean Bahias continue extremely scarce. Surats and Bengals are steady at our former quotations. 400 Bengals and 600 new Uplands have been taken on speculation during the week, and about 100 bales American purchased for export. The imports of the week are 9,359 bales.

The sales of the week are 11,470 bags, viz--300 Sea Islands at 10¼ to 15d; 5,430 Upland at 4 7-8d to 7d; 1,960 Mobile and Alabama at 4 7-8d to 6¾d; 700. New Orleans 5 to 8½d; 920 Pernambuco 7¾ to 8¾d; 490 Bahia and Macao 6⅛ to 7½d; 680 Maranham 6½ to 8d; 150 Egyptian 7¾d to 9d; 420 Surat at 4¼d to 5¼; 428 Bengal at 4¼d.

Prices Current in New York, March 3.

Beeswax, yellow 18 a 20. *Cotton*, New Orleans .10 a .12½; Upland, .7½ a .11; Alabama, .8 a 11½. *Cotton Bagging*, Hemp, yd. 14½ a 17; Flax 13 a 14½; *Flax*, American, 7 a 8.- *Flaxseed*. 7 bush. clean 14 50; rough 13.50; *Flour*, N. York, bbl. 5.25 a ——; Canal, 5.75 a 6.06; Balt. Hwd-st. 5.50 a ——; Rh'd. city mills —— a ——; country, 5.00 a ——; Alexand'a, 5.25 a ——; Fredericksburg —— a 5.00; Petersg. —— a 5 00; Rye Flour, —— a 5.00; Indian Meal, per bbl. —— a 3.25; per hhd. 15.75 a ——; *Grain*, Wheat. North. —— a 1.08; Vir. 1.03 a 1.05; Rye, North, 87 a 91; Corn. Yel. Nor. 58 a 60; Barley. 1.00 a ——; Oats, Sth. and North, .47 a 56; Peas, white, dry, 7 bu. 5. Beans, 7 bu. 7.00 a 8.00.

General Agricultural and Horticultural Establishment.

Comprising,—A Seed and Implement Store; a General Agricultural Agency, and the Office of the American Farmer, in the basement of Barnum's City Hotel, Baltimore;

In Connexion with a Stock and Experimental Farm and Garden in the Vicinity.

By I. Irvine Hitchcock and Gideon B. Smith.

Our Spring supply of Fresh and Genuine European GARDEN SEEDS is received, and they are ready for delivery.

PRINCE'S POMOLOGICAL MANUAL.

The second volume of this work is now ready for delivery, and the third volume is nearly completed.

These three volumes contain all the Orchard and Garden Fruits described by Duhamel and other French writers of high authority, and also all that are described in the Transactions of the London Horticultural Society, the Pomological Magazine, the Pyrus Malus Brentfordiensis, and Lindley's Guide to the Orchard and Kitchen Garden, as well as the numerous choice varieties which have originated in our own country. In the preface to Vol. II. the "Introduction" given by Mr. Lindley has been inserted entire, and great care has been taken, in republishing his descriptions of fruits, to extend the synonymæ, and to correct the errors which exist. WM. PRINCE & SONS.

Flushing, Feb. 21, 1832.

GARDEN AND FIELD SEEDS.

J. S. EASTMAN has in 120 bushels CLOVER, the most of which is prime, and 50 bushels of Cow PEAS, TIMOTHY, Tall Meadow Oat GRASS, and Herd SEEDS, and a small quantity of English Lawn Grass SEED. Also just arrived per brig Hyperion an additional supply of Fresh Garden SEEDS; among them are a variety of best Garden PEAS and BEANS. His assortment of Garden Seeds are probably equal to any in this city, *and all fresh*, and which he will sell on reasonable terms at wholesale and retail.

He would also inform his customers. that he has on hand a large supply of PLOUGHS and other Agricultural Implements, which he trusts will sustain the credit of his establishment.

N. B. Persons making inquiry for my shop and are informed that there is no such person in this city in the Plough Business, will please continue up Pratt street to No. 36, between Charles and Hanover streets, where they will receive prompt and polite attention by their humble servant. J. S. EASTMAN.

THE HORTICULTURAL GARDEN OF THE LATE ANDREW PARMENTIER, IS OFFERED FOR SALE.

The reputation of this establishment is not confined to the vicinity of New York, but is well known throughout the United States, and different parts of Europe. It is situated two miles from the city of New York, at Brooklyn, Long Island, at the junction of the Jamaica and Flatbush Roads, and contains 24 acres.

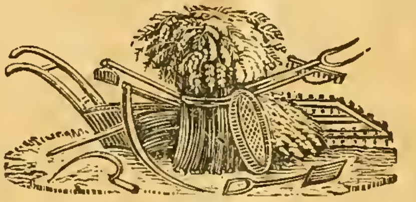
The Grounds are in a very high state of cultivation, and laid out with judgment and taste. The situation is very healthy, and the view very extensive, commanding the bay, the city, &c. The Garden is enclosed by a pointed stone fence, and inside of that is a hawthorn hedge. The Nursery contains a fine and extensive collection of Fruit, Forest and Ornamental Trees; also, a splendid collection of Roses and Herbaceous Plants,—the object of its late Proprietor having always been to collect every new variety.

On the premises are a Dwelling House, two Laborers Houses, seven Cisterns, and a never-failing Pump of excellent Water—four Green and Hot Houses, containing a rich variety of rare exotics.

The advantages to be derived by any person who wishes to engage in the occupation of Gardening, by the purchase of this property, are very great; the business already secured is very extensive, and the prospect of increased encouragement is such as to warrant the belief that the purchase of the property will amply repay the enterprise of any one who may engage in the business.

Terms will be made known by applying to Mrs. Parmentier, on the premises.

N. B. Mrs. P. will receive and execute all orders.
Feb 10—6t.



FRESH GARDEN SEEDS, AGRICULTURAL IMPLEMENTS, &c.

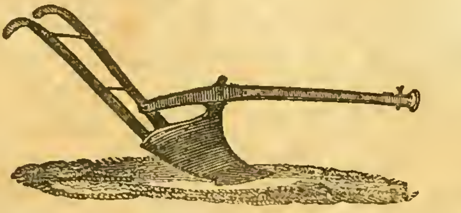
SINCLAIR & MOORE, Pratt street wharf, offer for sale, a complete assortment of Garden Seeds of the growth of 1831, warranted genuine of their kinds; particular care has been taken to obtain the very best, both of English and American Seeds, specimens of which may be seen growing near their store; among the English Seeds just received, may be enumerated:

Fine Early York Cabbage, fine Early George Cabbage, fine Early Wellington Cabbage, fine Early Sugar Loaf Cabbage, Ox Heart Cabbage, Early Battersea Cabbage, Green Savoy Cabbage, Drum Head Cabbage, Red Dutch Cabbage, Early Purple Cape Brocoli, Late Purple Cape Brocoli, White Brocoli, Common Scarlet Raddish, fine Early short Top Raddish, a superior article; Early Salmon Raddish, Late Salmon Raddish, Grand Admiral Lettuce, Tennisbalt Lettuce, Ice Lettuce, Lazzy Lettuce, Corn Sallad, Asparagus (Giant) Genuine Brussels Sprouts, Green Curled Borecole, Brown Curled Borecole, Sea Kale, Summer Spinnage, Mangel Wurtzel Seed, White Clover, Luzerne, Perennial Rye Grass.

Together with a great variety of fresh and genuine Garden and Flower Seeds of other kinds, both European and American growth, for particulars, see Catalogues.

GRASS SEEDS.

Sapling Clover, Common Red Clover, White Dutch Clover, Luzerne, Timothy, Tall Meadow Oat Grass, Herds Grass, Rye Grass, Green Grass for Lawns, Cow Peas for improving Land, also, Seed Oats.



IMPROVED PLOUGHS.

A large stock consisting of the different sizes, with wrought and cast shares of our New Model, not surpassed by any ploughs known to us. McCormick's Patent Ploughs, Wood's Patent cast share Ploughs, the Patent self sharpening Ploughs with steel points, this valuable principle of keeping its points always sharp without smith expense until from twelve to sixteen inches of a steel bar is worn away, recommends it strongly to the public. Barshare Ploughs for rough lands, Hillside Ploughs, Double Mould board Ploughs, Cast Iron Cary Ploughs, &c. Harrows of different sizes and constructions. Improved Cylindrical Straw Cutters, Daton's Patent, Evans' and common Dutch Boxes, Wheat Fans, Corn Shellers, Steel Hay and Manure Forks, Hoes, Mattocks, cast steel Axes, Socket and Strapped Shovels, Spades, Garden and Pruning Tools.

BOOKS.

McMahon's Gardener, Fessenden, Cobbet, Cox on Fruit Trees.

Fruit and Ornamental Trees and Shrubs in great variety, supplied from our Nursery near Baltimore.

Feb. 24, 1832.

BALTIMORE PRICES CURRENT.

Baltimore Market.—Business in the produce line continues extremely dull. Howard street flour from wagons was selling yesterday at $4 75. Wheat and other grain continues about the same as last week. We do not quote the prices of the lower qualities of wheat. They range between 60 and 90 cents according to quality.

Tobacco.--Seconds, as in quality, 3.00 a 5.00; do. ground leaf, 5.00 a 9.00.—-Crop, common, 3.00 a 5.00; brown and red 4.50 a 6.00; fine red, 6.00 a 8.00; wrappery, suitable for segars, 6.00 a 10.00; yellow and red, 8.00 a 14.00; yellow, 14.00 a 16.00.—Fine yellow, 16.00 a 20.00.--Virginia, 4.00 a——.—Rappahannock, 3.00 a 4.00——Kentucky, 3.50 a 8.00. The inspections of the week comprise 144 hhd. Md.; 4 hhds Ohio—total 148 hhds.

Flour—best white wheat family, $6.75 *a* 7.25; super Howard-st. 4.87 *a* 5 city mills, $4.75 *a* 4.87½ on time, *a*——; Susq.— *a* —; Corn Meal bbl. 3.50; Grain, best red wheat, .90 *a* 95; white do .95 *a* 1.05, Susq. — *a* —Corn, white, 36 *a* 37—yellow 37 *a* ——Rye, 65 *a* 66 —Oats, 33 *a* 34.—Beans, 75 *a* 80—Peas, 65 *a* 70—Clover-seed 5.25 *a* 6.25 —Timothy, 2.25 *a* 2.75 Orchard Grass —— *a* ———Tall Meadow Oat Grass 2.00 *a* 2.50---Herd's, 75 *a* 1.00--Lucerne — *a* 37½ lb.—Barley,—Flaxseed 1½ *a* 1 5-8-Cotton, Va. 7½ *a* 9-Lou. 9 *a* 12—Alab. 8 *a*. 10—Tenn. .7½ *a*. 9; N. Car. 8 *a* .9½-Upland 8 *a* 10½-Whiskey, hhds. 1st p. 29 *a* 30; in bbls. 31 *a* ———Wool, *Washed*, Prime or Saxony Fleece 49 *a* 57; American Full Blood, 40 *a* 45; three quarters do. 36 *a* 40; half do. 34 *a* 36; quarter and common do. 30 *a* 34. *Unwashed*, Prime or Saxony Fleece, 30 *a* 34; American Full Blood, 26 *a* 28; three quarters do. 24 *a* 26; half do. 22 *a* 24; quarter and common, 18 *a* 22——Hemp, Russia, ton, $225 *a* 230; Country, dew-rotted, 5½ *a* 7c. lb. water-rotted, 7 *a* 9c.—Feathers, 36½ *a* 37; Plaster Paris, per ton, 4.75 *a* —-, ground, 1.50 *a*—— bbl. Iron, gray pig for foundries per ton 33.00 *a* ——; high pig for forges, per ton, 28.00 *a* 30.00; bar Sus. per ton, 72.50 a 80.00.—Prime Beef on the hoof, 5.00 *a* 6.00—Oak wood, 3.50 *a* 3.75--Hickory, 5.00 *a* 5.50.

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